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THESIS

AN EXAMINATION OF THE PERFORMANCE OF A NATURAL TRUNCATION POINT AND ACCEPTANCE RULE FOR A CURTAILED WALD SEQUENTIAL SAMPLING PLAN WITH BERNOULLI PARAMETERS

by

Cameron J. Lewis
September 1992

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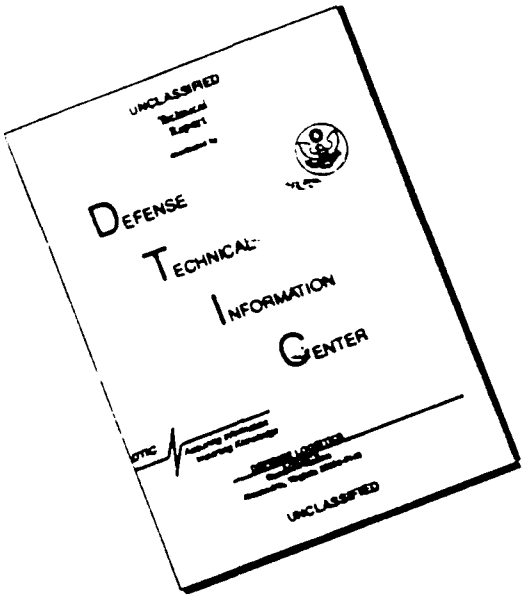

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ABSTRACT

This paper examines the performance of a proposed truncation and acceptance rule for the Wald Sequential Probability Ratio test for Bernoulli parameters, and the rule's influence on errors of the first and second kind as well as the average number of items sampled for inspection. The proposed truncation and acceptance rule suggests that there exists a natural truncation point for every sequential probability ratio test such that the desired error probabilities are not exceeded or that one of the true errors is smaller then desired and the other will be exceeded by an insignificant amount. A computer program is used to simulate the sampling process and provide estimates of the true values of a plan's Operating Characteristic curve, its average sample number, as well as the probability of implementing the truncation and acceptance rule. Results suggest that truncation and rejection of a lot at the natural truncation point will maintain a plan's desired Operating Characteristic curve. The cases examined also suggest that any modification to the natural truncation point truncation and acceptance rule may cause an unacceptable deviation from the desired Operating Characteristic curve. Finally , a linear equation was developed which provides an estimate of the upper limit on the probability of implementing a truncation and acceptance rule, and that in most cases, this upper limit is less than 0.15.

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I. INTRODUCTION

Quality control has been a part of every industry for as long as there has been industry. Statistical quality control, on the other hand, is a relatively new thing with its greatest developments occurring in just the past 80 or so years [Ref. 1]. During those 80 years, the military played a major role in forcing industry to adopt statistical quality controls as a way of assuring that the quality of products they were buying met their specific requirements. A number of procedures were developed for sample inspection, most of which required inspectors to randomly draw a fixed number of sample items from a lot and inspect each one. If from these drawn items the number of defective or nonconforming items exceeded a specified critical value the lot was rejected , otherwise it was accepted.

During the late 1940's , Abraham Wald indicated that there could be a fairly large economy in the average number of items inspected , or the Average Sample Number (ASN) , sometimes as much as 50%, through the use of sequential statistics [Ref. 1]. However there is one shortfall of this sequential method and that is that the number of items sampled typically has a large variance and the maximum number of items that may need to be inspected before a decision can be made is unbounded. Wald suggested a way of truncating the process but warned that this could change the probabilities of the errors of the first and second kind [Ref. 6]. In recent years there have been a number of papers written about this problem , suggesting decision rules and methods for truncation. One of these papers , by Jurgen Petersen , suggests that there is a natural truncation point (NTP) for every

Sequential Probability Ratio (SPR) test at which a decision can be such that the desired errors will not be exceeded or that one of the true errors will be smaller then required and the other will be exceeded by an insignificant amount [Ref. 5].

This paper shall examine and evaluate the effects of using the NTP and decision rule on the Operating Characteristic (OC) and ASN of given SPR plans. It will also attempt to find the probability that in any given lot of items the truncation and acceptance rule may need to be implemented , that is , that decision to accept or reject will not have been made prior to the truncation point.

In order to evaluate the proposed truncation and acceptance rules, a computer program was written to simulate a SPR sampling process using these rules. This program provides estimates of the probability of acceptance , the ASN , and the probability that the rule will be implemented for a number of specified sampling plans. These computed values will then be compared to Wald's theoretical values for the same SPR plans when no truncation rule is used.

This study will proceed in the following way: Chapter II will describe the Wald Sequential Probability Ratio Test for a Bernoulli parameter. It will include a description of planned errors of the first and second kind, the testing procedure and sequential-sampling chart , the development of OC curves, and the calculation of the theoretical ASN . The third chapter will be a description of the NTP and decision rule that will be used and a brief explanation of how the NTP was obtained. Chapter IV will describe the simulation and the SPR plans that were evaluated and in the final chapter, the results of the simulation will be discussed and conclusions drawn.

II. WALD'S SEQUENTIAL PROBABILITY RATIO TEST

The sequential method of quality control is a hypothesis test in which items are drawn from a lot sequentially and where one of three decisions can be made at any point during the test: (1) to accept the null hypothesis , (2) to reject the null hypothesis , (3) to continue the test by sampling more items. If either the first or second decision is made, the testing is terminated. If the third decision is made, the process is continued, selecting one item at a time until either the first or second decision is made. This testing method as well as definitions of the null hypothesis , Bernoulli parameters , and possible errors will be described in the following sections.

A. BERNOULLI PARAMETERS AND ERRORS OF THE FIRST AND SECOND KIND

Like most quality control plans, Wald's SPR test requires that a number of parameters be specified. The first of these parameters is the Acceptable Quality Level or AQL. The AQL is the proportion of nonconforming items that may be found in a lot and still have the lot called acceptable. This acceptable proportion is designated as the Bernoulli parameter P1. P1 is usually specified by the consumer as well as a value for α such that:

$$\Pr(\text{Rejecting a lot} \mid Pa = P1) = \alpha \quad , \qquad (1a)$$

or

$$\Pr(\text{Accepting a lot} \mid Pa = P1) = 1-\alpha \quad , \qquad (1b)$$

where Pa is the actual proportion of nonconforming items in the lot. These equations describe the Type I error associated with acceptance sampling. Stated in terms of a hypothesis test, the null hypothesis is that the actual proportion nonconforming is P1, and α is the significance level for the test.

The value of α is often known as the "producers risk" for it is the chance that the producer takes of having a lot consisting of satisfactory items rejected by the test. The consumer also has a risk associated with acceptance sampling. This consumers risk is designated as β such that the

$$\Pr(\text{Accepting a lot} \mid Pa = P2) = \beta \quad , \qquad (2)$$

where P2 is greater than P1 and is a value of the lot fraction nonconforming that the consumer is willing to take a $\beta(100)\%$ chance of accepting. The consumer's risk equation describes a value of a Type II error associated with acceptance sampling.

The hypothesis test associated with acceptance sampling is

$$Ho: Pa = P1$$
$$Ha: Pa > P1$$

with , α , β , P1 , and P2 specified as discussed above. The values of P2 and β define a point on the test's Operating Characteristic (OC) curve. Note that the hypothesis test is only a one-sided test for it would make little sense to test for Pa being less than the AQL. The typical values for α and β are 0.05 and 0.10 respectively , and when

used in Equations (1b) and (2) , define two points on the test's OC curve.

B. SEQUENTIAL PROBABILITY RATIO

In the Wald Sequential plan, items are drawn randomly from a lot one item at a time and inspected. After the n_{th} item is inspected with c nonconforming items having been found, the sequential probability ratio is computed, compared against two test values A and B, and a decision is made as follows:

$$SPR = \frac{Pr\,(\text{reaching } n\,,\, c \,/\, Pa = P2\,)}{Pr\,(\text{reaching } n\,,\, c \,/\, Pa = P1)} = \left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]^{c} * \left[\frac{1-P2}{1-P1}\right]^{n} , \quad (3)$$

and if $SPR \geq A$ then stop sampling and reject Ho,
if $SPR \leq B$ then stop sampling and accept Ho, and
if $B \leq SPR \leq A$ then continue sampling .

The constants A and B are derived so that the test will meet the requirements of Equations (1) and (2) . An upper limit for the constant A is found to be the ratio of the probability of rejecting the null hypothesis Ho when the alternative hypothesis Ha is true divided by the probability of rejecting Ho when Ho is true, yielding

$$A \leq \frac{1 - \beta}{\alpha} \quad . \quad (4)$$

A lower limit for B is found to be the ratio of the probability that Ho is accepted given that Ha is true divided by the probability that Ho is accepted given that Ho is

true or written as an inequality:

$$B \geq \frac{\beta}{1 - \alpha} \quad . \qquad (5)$$

Wald showed that when the inequalities in Equations (4) and (5) are replaced by equalities, we have conservative values for A and B. [Ref. 6]

C. SEQUENTIAL SAMPLING CHART

Wald then greatly simplified the SPR test by removing the requirement of computing the SPR every time a sample is taken. He removed this requirement by developing a chart on which an inspector needed only to plot a point, where the abscissa is the total number of items inspected up to that time and the ordinate is the total number of those items which were found to be nonconforming [Ref. 1]. If the plotted point stays between the two parallel lines on the sampling chart, no decision is made about the lot and the inspection is continued. If a point is plotted and it falls on or above the upper parallel line the inspection is terminated and the lot rejected, but if a point is plotted and it falls on or below the lower of the two parallel lines, the inspection is terminated and the lot is accepted. Figure 1 shows what a typical

sequential sampling chart may look like and how the points are plotted until a decision can be made. In Figure I , the decision would be made is to reject the lot.

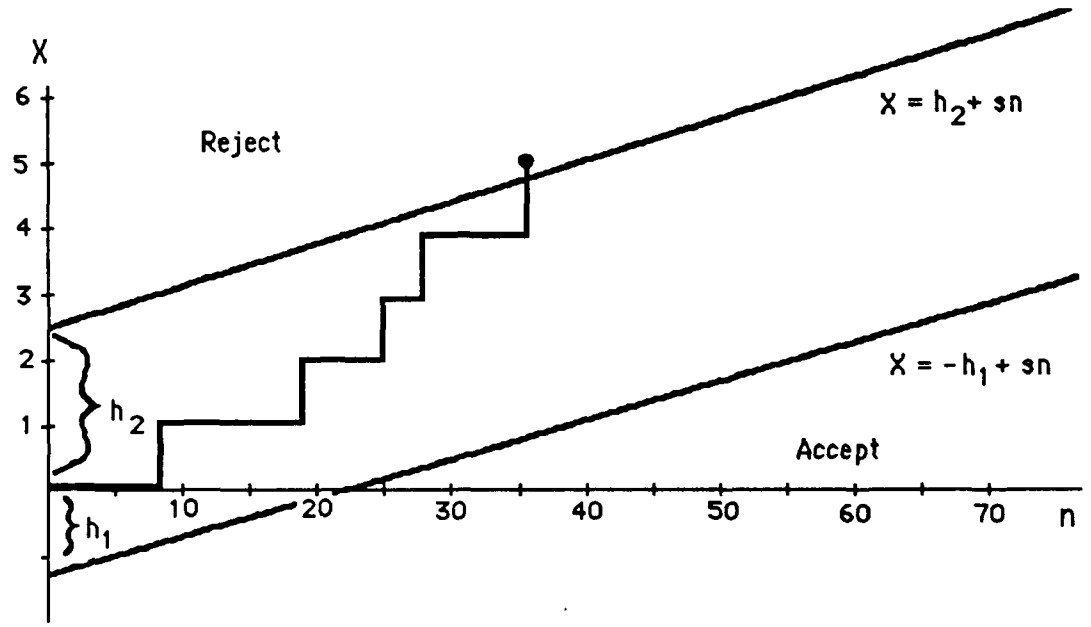


Figure 1 -AN EXAMPLE OF A SEQUENTIAL SAMPLING CHART

The values of h_1 , h_2 , and s are arbitrary labels for constants which can be derived by setting the values for A and B equal to the right hand side of Equation (3) and then solving for c. When the value for A is set equal to the right hand side of Equation (3) and c is solved for, the result takes the form of $c= -h_1+sn$. When B is set equal to the right hand side of Equation (3) and c is solved for, the result takes the form of $c=h_2+sn$ where [Ref. 1]

$$h_1 = \frac{\ln\left[\frac{1-\alpha}{\beta}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]}\quad , \qquad (6)$$

$$h_2 = \frac{\ln\left[\frac{1-\beta}{\alpha}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]}\quad , \qquad \text{and} \qquad (7)$$

$$s = \frac{\ln\left[\frac{(1-P1)}{(1-P2)}\right]}{\ln\left[\frac{P2\,(1-P1)}{P1\,(1-P2)}\right]}\quad . \qquad (8)$$

There are a number of items to note about the sequential sampling chart. The first item to note is that there is a minimum number of samples that need to be taken before a decision can be made. The second item worthy of being pointed out is that not all values of n represent an opportunity for accepting or rejecting Ho. Acceptance can occur only at those values of n where $-h_1+s(n-1) < X \leq -h_1+sn$, where both X and n are non-negative integers. The values of n that meet this condition will be called acceptance points. The final item worth noting is that since the acceptance and rejection lines are parallel to each other , the maximum number of items that need to be sampled before a decision can be made is unbounded. It is this difficulty with sequential sampling that led to the truncation and acceptance rule that will be discussed in the next chapter.

D. THE OC CURVE FOR A SPR SAMPLING PLAN

The Operating Characteristic (OC) curve for SPR sampling plan is a curve that shows the probability of accepting a lot of items given the actual proportion of nonconforming items in that lot (Pa). This OC curve should reflect the desired parameters such that

$$\Pr(\text{accepting Ho} \mid Pa = P1) = 1 - \alpha ,$$

and

$$\Pr(\text{accepting Ho} \mid Pa = P2) = \beta$$

are two points on the plan's curve. It also has been shown that a third point on the curve is [Ref. 1]

$$\Pr(\text{accepting Ho} / Pa = s) = \frac{h_2}{h_1 + h_2} .$$

Other points on the OC curve can be obtained from the parametric equations

$$Pa = \frac{1 - \left[\frac{1 - P2}{1 - P1}\right]^{\theta}}{\left[\frac{P2}{P1}\right]^{\theta} - \left[\frac{1 - P2}{1 - P1}\right]^{\theta}} , \qquad (9)$$

and

$$\Pr(\text{accept Ho} / Pa) = \frac{\left[\frac{1-\beta}{\alpha}\right]^{\theta} - 1}{\left[\frac{1-\beta}{\alpha}\right]^{\theta} - \left[\frac{\beta}{1-\alpha}\right]^{\theta}} , \qquad (10)$$

where θ is an arbitrary value which ranges from negative infinity to infinity such

that for $\theta = 1$, we have Pa = P1, for $\theta = -1$ we have Pa = P2 and for $\theta = 0$, Pa = s. An example of an Operating Characteristic curve is shown in Figure 2.

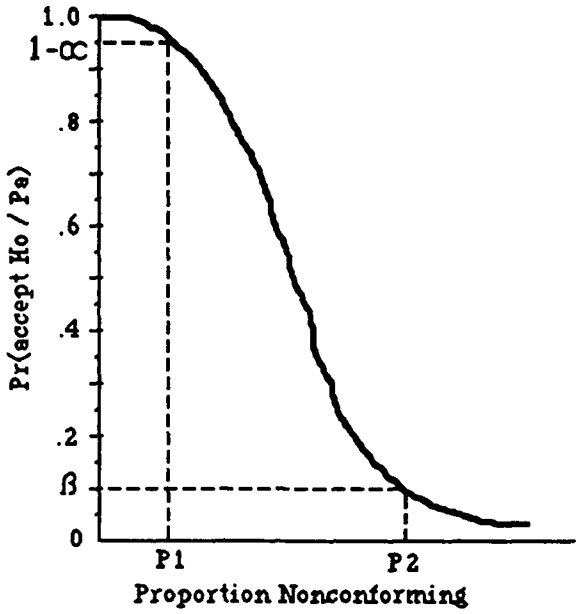


Figure 2 - AN OPERATING CHARACTERISTIC CURVE

E. THE AVERAGE SAMPLE NUMBER (ASN) CURVE

As discussed earlier in this paper, the number of items that will be required to be sampled before a decision can be made is a random variable, but Wald showed that it is possible to compute its expected value as a function of the plan's parameters and Pa. The equation for computing the ASN is as follows [Ref 1]:

$$ASN(Pa) = \frac{Pr(accept|Pa)\, h_1 - (1 - Pr(accept|Pa))\, h_2}{s - Pa} \quad . \quad (11)$$

Equation (11) can be simplified at specific values of Pa such that $ASN(Pa = 0) = h_1/s$, $ASN(Pa=1) = h_2/(1-s)$, and $ASN(Pa=s) = h_1 h_2 / s(1-s)$.

There are several items that should be noted about the ASN for any given SPR plan. The first of these is that the maximum ASN for any given plan will occur around the point where Pa = s and it is possible that this ASN will be larger than the sample numbers for some other types of sampling plans [Ref. 1]. Second is that the larger the difference between P1 and P2, the smaller the ASN. A final observation is that the greater the values of α and β, the smaller the ASN. Figure 3 shows what a typical ASN curve might look like.

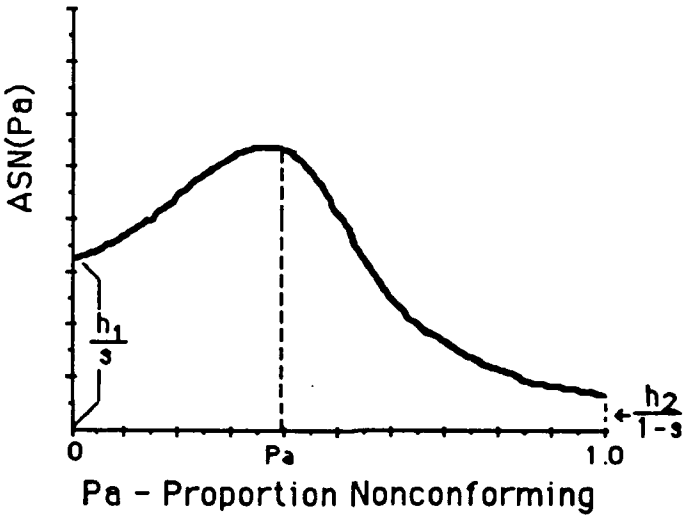


Figure 3 - AN ASN CURVE

III. THE NATURAL TRUNCATION POINT AND ACCEPTANCE RULE

It has been shown that the probability that a sequential test will eventually terminate is 1.0, but we have also seen that the maximum value for n at which this termination will occur is unbounded [Ref. 6 , p. 157-158]. It is because this maximum value is unbounded that we may find it necessary to set a definite upper limit , n_o , for the number of items to be inspected. It is at this truncation point that the test will be terminated and a decision on whether to accept or reject Ho will be made. Wald warns that if we truncated the sequential process at the n_oth trial, we will be changing the probabilities of errors of the first and second kind by some unknown amount, but as n_o becomes larger, the effect of this change will be smaller [Ref. 6].

In his paper, Petersen suggested that for every SPR plan there exists a natural truncation point (NTP) at which the test may be stopped and neither of the two error probabilities will be exceeded, or that the error of the second kind will be insignificantly greater then ß [Ref. 5 , p 22]. In the following sections we will give a brief description of the NTP and the decision rules that will be used when it is reached.

A. THE NATURAL TRUNCATION POINT

We have seen that not every point on the sequential sampling chart represents an opportunity to accept the null hypothesis. The only points at which the null hypothesis can be accepted are the values of n at which the equation $(-h_1 + sn)$ is

equal to or has just become greater than a value of X, which is the number of nonconforming items that have been found in the sample of size n. These special values of sample number n are called acceptance points and are designated as A_0 , A_1 , A_2 , ... , where at each sample number A_i there is an unconditional probability that the test will be terminated given that the null hypothesis is true [Ref. 5].

A similar observation can be made about the opportunity to reject the null hypothesis. There are a number of points at which the number of nonconforming items needed to reject the null hypothesis increases by one. Analogous to above, these special values of sample number n are called rejection points. While these rejection points are interesting to note, we will see that they do not play a role in identifying the natural truncation points. Figure 4 shows the location of some acceptance and rejection points on a typical SPR chart.

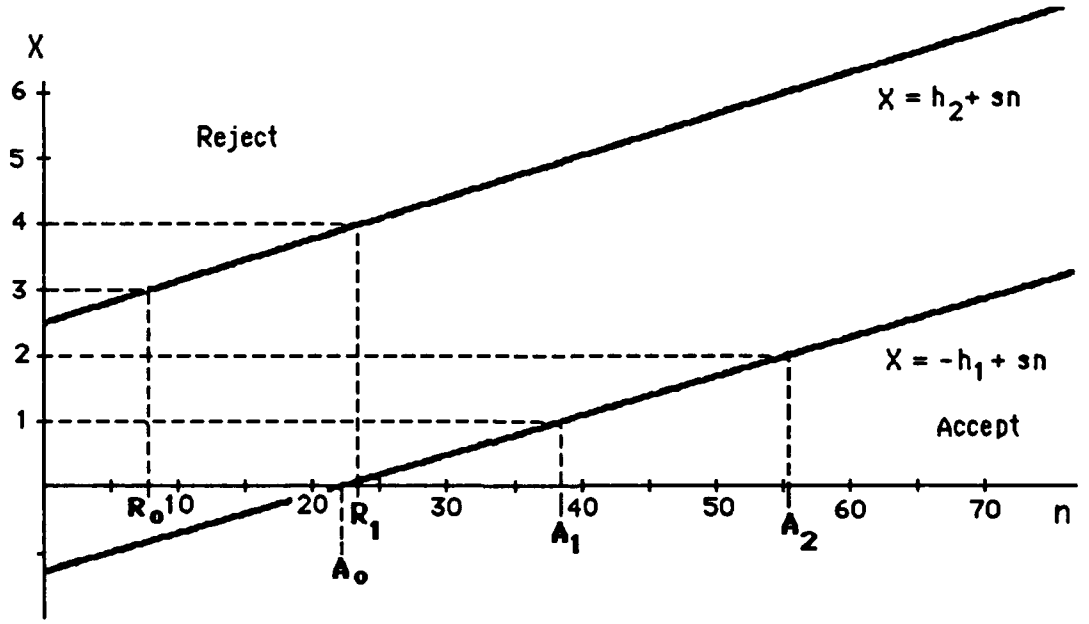


Figure 4 - SEQUENTIAL PROBABILITY RATION CHART WITH ACCEPTANCE AND REJECTION POINTS HIGHLIGHTED

If there is no truncation, the sum of the acceptance probabilities for all the values of A_i up to and including n is the probability that Ho will be accepted when

at most n samples are drawn. Given that $n<A_{i+1}$, the following statements can be made about the acceptance probability when at most n samples have been drawn [Ref. 5 , p 16]:

(i) Since $-h_1 < 0$, the Pr (accept Ho | n = 0) = 0.

(ii) As n increases in size, the Pr (accept Ho | n) never decreases , and only increases at acceptance points.

(iii) For all sample numbers between A_i and A_{i+1} , the Pr(accept Ho | n) is a constant and is equal to the Pr(accept Ho | $n = A_i$).

Figure 4 shows how the acceptance probability accumulates for an arbitrary sampling plan when the null hypothesis is true , that is Pa = P1 [Ref. 5].

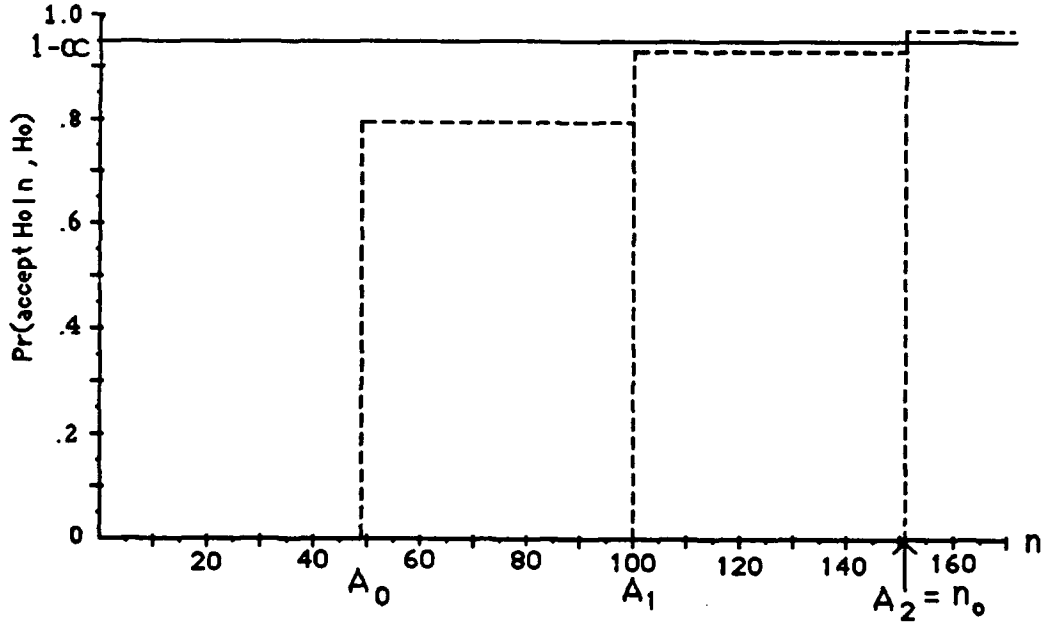


Figure 4 - ACCUMULATED ACCEPTANCE PROBABILITY

In the above example, the acceptance point A_2 is the first point where the probability of acceptance exceeds the (1- α) requirement. It is this point that is designated as

this plan's natural truncation point , n_o.

At n_o , α can an be considered as an upper bound for the probability of a Type I error. It is also possible to compute an upper bound for the probability of an error of the second kind as n approaches n_o. It has been shown that as n increases , the upper limit for the probability of a Type II error decreases , approaching ß from above [Ref. 6, p 62-64].

It is also possible to show that the sum of the acceptance probabilities, when the alternate hypothesis is true , approaches ß as n increases . In addition, it has been suggested that the true probability of a Type II error will be at most, insignificantly greater than the planned error when n is equal to the natural truncation point [Ref. 5]. Figure 5 shows how the acceptance probability may accumulate for an arbitrary sampling plan when the alternate hypothesis is true , that is Pa = P2 .

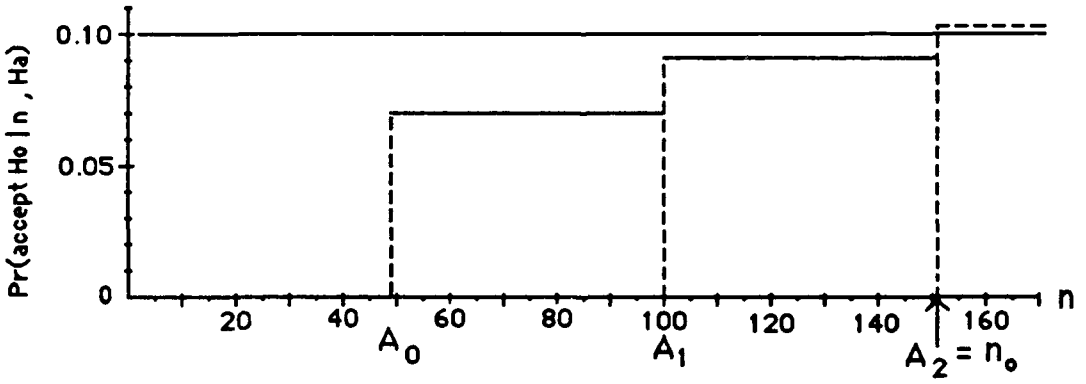


Figure 5 - ACCUMULATED ACCEPTANCE PROBABILITY WHEN THE ALTERNATE HYPOTHESIS IS TRUE

If the true probability of a Type II error does not significantly exceed ß for any sample number n, it is then not necessary to specify a special truncation point to control it.

B. ACCEPTANCE RULES

Once the natural truncation point is reached , a decision must be made as whether to accept or reject the null hypothesis. We will examine three related rules starting with the simplest and working toward slightly more complicated ones. The simplest and most conservative rule is that if no decision has been made after the last item has been sampled the null hypothesis should be rejected. By rejecting Ho, we insure that the true probability of errors of the first and second kind are as close to the desired values as possible [Ref. 6].

The second decision rule is known as the (h_1-m) rule. This rule divides the region between the upper rejection and lower acceptance lines into two parts. The line which makes this division is the line $-(h_1-m)+sn$ where m is a positive integer such that $0 \leq m \leq (h_2 - (-h_1))$. Figure 6 shows how the region is divided when m=2.

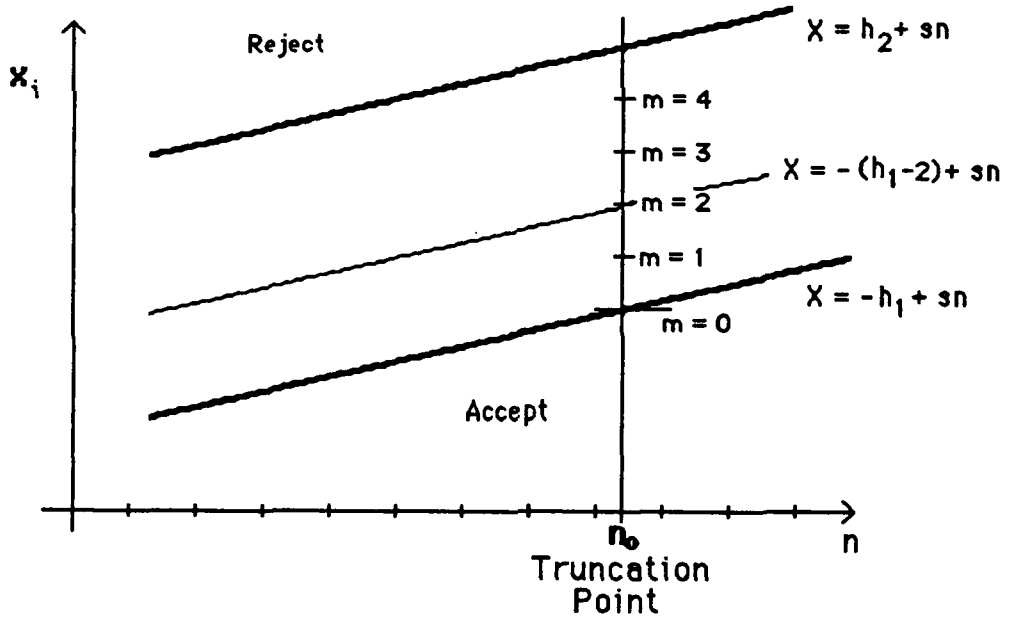


Figure 6 - AN EXAMPLE OF DIVIDING THE SAMPLING CHART USING THE (h_1 - m) ACCEPTANCE RULE.

Under this rule, if the natural truncation point is reached before a decision has been made, the null hypothesis is rejected only if the plot of the number of

nonconforming items found falls on or above the - (h_1-m)+sn dividing line. If the number of nonconforming items is less than -(h_1-m)+sn, then Ho is accepted.

The final rule that will be examined is an extension of the (h_1-m) acceptance rule and attempts to reduce the ASN of a plan by finding earlier truncation points.. Under this rule, one of the two desired errors is fixed and the other is allowed to vary in an attempt to lower the value of the truncation point. Petersen describes a sample number n_i^* which is strictly less than the NTP but at which we are assured that the probability of a Type I error will not exceed α . He also describes n_i^{**} which is the smallest sample number for which ß is not exceeded. These sample numbers can be found using the following equations:

$$n_i^* = \text{int}\left[\frac{\log[1-\alpha-Pr(\text{accept}@\,Ai \mid Ho)] + Ai\,\text{Log}(1-P1) - \log[Pr(X(Ai) = i+m)]}{\text{Log}(1-P1)}\right] \quad (11)$$

$$n_i^{**} = \text{int}\left[A_i + \frac{\text{Log}[\,\beta - Pr(\text{accept}\,@\,Ai \mid H_0)] - \text{Log}[\,Pr(X(Ai)=i+m)]}{\text{Log}(1-P1)} + 1\right] \quad (12)$$

where Pr($X(A_i) = i+m$) is the probability that the number of nonconforming items at acceptance point A_i will be less then or equal to i+m, given that the null hypothesis is true in Equation (11) and that the alternate hypothesis is true in Equation (12). [Ref. 5]

While the derivation of Equations (11) and (12) is fairly complicated and will not be discussed here, there are several items that should be noted about using the

extended (h_1-m) acceptance rule. The first item to note is that it is possible that n_i^* and n_i^{**} may not exist for every given sampling plan. Second is that if the new truncation points do exist, once n_i^* or n_i^{**} is reached, decisions are made in the same way as the non-extended (h_1-m) rule, and finally while this plan fixes one error at a desired value , the amount by which the alternate error will vary from its desired value is unknown and possibly can be quite large.

Theoretically the above truncation rules should reduce the ASN of an given plan by truncating a sampling process at a specific point while maintaining the desired operating characteristic. The following section will describe the experimental procedures and computer simulation used to test the validity of the claims made above.

IV. EXPERIMENTAL PROCEDURES

In any sequential sampling procedure, there are a number of steps that must be taken before the actual sampling and testing of items begin. First, the plan's parameters must be specified. Second, the definition of conforming and nonconforming must be clarified, and finally a procedure for random sampling and testing must be determined. It is only after these three steps have been accomplished that the actual testing may begin and decisions as whether to accept or reject lots may be made. The following section will discuss these three steps in detail as well as describe the computer simulation that was used to simulate the sampling process.

A. PARAMETER SPECIFICATION

Before the beginning of any sampling process , the parameters α , β , P1, and P2 must be specified. These values are used in Equations (6) , (7) , and (8) to compute the values of h_1 , h_2 , and s which in turn are used to determine the acceptance and rejection zones on the sequential sampling chart. For the work presented in this paper, α and β were set at 0.05 and 0.10 respectively and remained constant throughout the test. These values were selected because they are typical values used in quality control. For the parameters P1 and P2 , twenty six pairs of P1 and P2 values were arbitrarily selected. The values for P1 and P2 were selected to provide a good range for testing the truncation points and stopping rules. For ease of testing , the parameters were divided into four "Plan Sets" according to the four values of P1 that were used. Table I provides a list of the parameter pairs used as well as their

natural truncation point and extended rule truncation points n_i^*, and n_i^{**}. The truncation points for the extended rule were computed using the (h_1-1) extended rule for reasons that will be discussed later.

Table I - PARAMETER VALUES USED IN THE SIMULATION AND THEIR TRUNCATION POINTS.

	P1	P2	NTP	n_i^*	n_i^{**}		P1	P2	NTP	n_i^*	n_i^{**}
Plan Set 1	0.005	0.01	4605	4346	4352	Plan Set 3	0.015	0.03	1523	*	*
		0.02	702	530	579			0.04	636	*	527
		0.03	375	163	218			0.05	371	*	280
		0.04	182	71	116			0.06	233	178	186
		0.05	151	76	96			0.07	179	138	140
		0.06	129	83	83	Plan Set 4	0.020	0.03	4192	*	*
		0.07	74	71	71			0.04	1148	*	*
Plan Set 2	0.010	0.03	714	*	*			0.05	560	*	471
		0.04	350	*	281			0.06	356	273	277
		0.05	215	138	164			0.07	243	209	211
		0.06	151	82	106			0.08	174	134	140
		0.07	133	84	91			0.09	134	102	106
		0.08	90	36	57			0.10	107	79	88
* Does not exist under (h_1- 1) rule											

B. DEFINITION OF CONFORMING AND NONCONFORMING

In quality control an item may be considered nonconforming if a specific measurement does not fall within required parameters. These parameters usually fall into one of two types of tests , one-way or two-way tests. A test that is one-way requires the item being inspected to meet some minimum or maximum limit. As long as this maximum or minimum is met, the item is considered good or

acceptable. For example, if a chain company may require a quarter-inch chain to have a minimum breaking strength of two thousand pounds, that is what they will test for. They may not care that the actual breaking strength is twenty-six hundred pounds , all they care is that the chains meet the minimum requirements.

A two-way test has two parameters that must be met, a minimum and a maximum. The most common two-way test measures to see if a specific characteristic of an item falls between these two parameters. If the measurement falls between the minimum and maximum , the item is considered acceptable, otherwise it is rejected as unacceptable . An example of a two-way test may be a potato chip company measuring to see if a twelve ounce bag of chips is actually being filled with 12 oz. of chips. If a bag has too few ounces of chips in it the law may not allow them to call it a 12 oz. bag. If a bag has much more then 12 oz. in it , the company may be losing money. Not wanting to break the law or lose money, the company specifies a minimum and maximum weight for the number of ounces of chips that a bag should have. The company then tests bags of chips one at a time. If enough bags of chips meet the specified requirements, the machine that fill the bags is working properly. On the other hand if enough bags of chips do not meet the requirements, the company may decide that the filling machine requires adjustments or repairs.

While the above two tests are not the only type of examinations used in quality control, they are probably the most common. For the purpose of this paper, the two-way test will be used in the examination of the proposed truncation rules. In a computer simulation, a lot of 5000 numbers will be created from a normal

distribution. Each number represents some attribute of the item being tested. From this lot of numbers, one item at a time will be drawn , without replacement , and compared to a set of parameters such that the probability of the items falling outside these parameters is a fixed and known. If the item falls within the specific parameters it is classified as acceptable or conforming, otherwise it is classified as a nonconforming item. Inspection continues one item at a time until a decision can be made. Details of the simulation will be discussed in the following section.

C. COMPUTER SIMULATION

A computer program was written to simulate the Wald SPR sampling process and compute the ASN and its standard deviation , the Operating Characteristic, and number of times the stopping rule was utilized for each SPR plan. The computer simulation was written in VS FORTRAN 77 and utilized the AMDAHL 5990-500 Dual-Processor mainframe computer system at the Naval Postgraduate School (NPS) Computer Center during the period of April to September 1992. The simulation also utilized the NPS Random Number Package with double precision written by P.A. Lewis and L. Uribe.

The input variables for the simulation consisted of five parameters denoted by P1 , P2 , Pa , NTP , and Za. With the exception of Za, all the parameters are the same as the ones discussed earlier in this paper. The parameter Za is the measurement parameter used in the two-way test discussed above such that the probability that an items measurement falls outside -Za and Za is Pa.

As discussed before, twenty-six pairs of parameters P1 and P2 were used in the

simulation and were divided into four "Plan Sets" according to the four different values of P1 that were used. Each pair of parameters P1 and P2 within a Plan Set is called a plan since each different pair of P1 and P2 will have a different OC curve. For each plan , six to eighteen OC points, designated by Pa, were used to develop each Plan's OC and ASN curves. Table II gives an example of two plans and the values for Pa that were used in the simulation.

Table II - EXAMPLE OF THE PARAMETERS FROM PLAN SET 1
PLANS C AND D

Plan C			Plan D		
P1	P2	Pa	P1	P2	Pa
0.005	0.03	0.005	0.005	0.04	0.005
		0.007			0.007
		0.010			0.010
		0.013			0.013
		0.016			0.016
		0.019			0.019
		0.022			0.022
		0.025			0.025
		0.028			0.028
		0.030			0.031
					0.034
					0.037
					0.040

A lot of 5000 random numbers was created from a normal distribution with a mean of zero and variance of one for each value of Pa. Each number represented an arbitrary measurement of some attribute of the items being tested. From one lot at a time, items were randomly selected one item at a time without replacement and tested against the parameter Za. This selection process continued until a decision as

whether to accept or reject the lot could be made. The process was then repeated 5000 times so that the final estimate of each OC point was the result of 5000 lots of 5000 items going through the SPR process.

One of the sets of rules that should be kept in mind when conducting any random sampling process is that the method by which items are selected should ensure that each member of a lot has an equal chance of being selected. It should also avoid using any method of selection that associates the selection of the item with the classification of the item being selected. Since the items in the lots came from a normal distribution a sampling order was created for each lot from a uniform[0,5000] distribution. By selecting items according to a sampling order from a different distribution, we were assured that the sampling process was as close to random as possible.

V. RESULTS AND CONCLUSIONS

When a Wald SPR sampling process is truncated its operating characteristics will vary with the location of the truncation point and the type of acceptance rule used. As the location of the truncation point becomes larger, the true values of the OC curve will approach the values of the OC curve of the nontruncated sampling plan. For this paper, the values obtained from the simulation for the OC and ASN curves will be known as the true values for a plan. These values will be compared to the values of the nontruncated SPR sampling process obtained from Equations (10) and (11). The values for the OC curve and ASN obtained from Equations (10) and (11) will be known as a plan's theoretical values.

A. NATURAL TRUNCATION POINT

As discussed earlier in this paper, the first truncation and acceptance rule examined was an automatic rejection of a lot if the sampling process reaches the NTP . The normal approximation for the two-sided test for the Difference of Two Proportions (DTP) , at a 0.05 level of significance, was used to compare the theoretical and true values of the operating characteristic at each value of Pa such that:

$$\text{Ho: } P(\text{accept} \mid Pa)_{true} = P(\text{accept} \mid Pa)_{theo.}$$

$$\text{Ha: } P(\text{accept} \mid Pa)_{true} \neq P(\text{accept} \mid Pa)_{theo.}$$

According to test statistics, there appears to be no difference between the theoretical

and true values for any of the plans tested. In other words, for plans with parameter values in the range of those studied here, the NTP stopping rule provides a point at which the SPR sampling process can be truncated while maintaining the errors of the first and second kind at their desired values. The results of the above testing can be found in Tables III and IV of Appendix B under the heading m=0.

The true ASN and theoretical ASN at each value of Pa were also compared but this time a one-sided Paired Difference T test (PDT), at a 0.05 level of significance, was used. The associated hypothesis test was

$$\text{Ho: } ASN_{true} = ASN_{theo.}$$
$$\text{Ha: } ASN_{true} < ASN_{theo.}$$

which when rewritten as a PDT is

$$\text{Ho: } (ASN_{true} - ASN_{theo.}) = 0$$
$$\text{Ha: } (ASN_{true} - ASN_{theo.}) < 0 .$$

The paired difference statistic has a student's t distribution with n-1 degrees of freedom. In the above testing, n=5000 and the therefore the t statistic is essentially normal. Results of the tests using the normal distribution can be found in Tables VI, IX, XII, and XV of Appendix B and showed that in almost all of the plans , the true ASN did not show any statistical savings over the theoretical values.

There are two items worthy of noting when discussing the two comparison tests used above. The first item is that the use of a two-sided test is not entirely appropriate for the DTP test because at different areas of the OC curve the alternate

hypothesis , $P(\text{accept} \mid Pa)_{true} \neq P(\text{accept} \mid Pa)_{theo.}$, may be desirable. For example, it may be desirable for the $P(\text{accept} \mid Pa \text{ is near } P1)_{true} > P(\text{accept} \mid Pa \text{ is near } P1)_{theo.}$ or $P(\text{accept} \mid Pa \text{ is near } P2)_{true} < P(\text{accept} \mid Pa \text{ is near } P2)_{theo.}$ because then the probability of either type of error would be less than required and therefore better. The second item worthy of noting is that while the differences between the true and theoretical values of a number may be statistically significant, the numerical differences may often be fairly small. When the sample size being used in the test is large, in this case 5000 , a small difference between numbers may often lead to rejection of the null hypothesis. It is therefore important to look at the actual numerical differences as well as the Z values obtained from the test statistics. These items will also hold true in the following sections.

B. THE $(h_1 - m)$ ACCEPTANCE RULE

The second truncation and acceptance rule examined was the $(h_1 - m)$ acceptance rule. As discussed before, if no decision has been made prior to reaching the NTP the lot is accepted if the number of nonconforming items found up to that point is less then $-(h_1 - m) + sn$, where n is the NTP. If the number of nonconforming items found up to that point is equal to or greater then $-(h_1 - m)+sn$ the lot is rejected. For this set of rules, the simulation was run using the same lots and sampling order used to test the first rule but was with m=1 , m=2 , m=3 , and then m=4. Using the same lots and sampling order allowed direct comparison between runs with different values of m.

The results from this set of tests can also be found in Tables XVII through XX of Appendix B and show that as m increases in value, the probability of a Type I error decreases at a decreasing rate. That is for every increase in m , the decrease in the probability of a Type I error becomes smaller and smaller and approaches zero as m approaches (h_2 - (-h_1)). On the other hand, as m increases in value, the probability of a Type II error increases. Like the decreases in the probability of a Type I error, the increases in the probability of a Type II error becomes smaller as m increases but do not approach zero as quickly as alpha. In other words, every increase in the probability of a Type II error is not necessarily accompanied by an equal decrease in the probability of a Type I error.

For all values of m>0 the Pr(accept Ho | Pa =P2) was greater than ß. The differences between the true values of the probability of a Type II error and their desired values are statistically significant in all the plans tested but as discussed above, the actual numerical differences are not always that great. It is therefore necessary to make a decision as to how much you may be willing to let the probability of a Type II error vary from its desired value of ß in order to obtain some improvement in the probability of a Type I error. Since all the true values along a given the OC curve varied similarly when m is changed , the 95% confidence interval (CI) for the probability of a Type II error and a number of other OC points was computed for the different values of m. The computed CI for the probability of a Type II error at m=1 was {0.106 , 0.118} with a maximum value of 0.128. The CI for the probability of a Type II error at m=2 was {0.12 , 0.137} with a maximum value of 0.148. Since the true values for ß and the other OC points using m=1 are generally

very close to the theoretical values, the (h_1 - 1) truncation and acceptance rule is recognized as a reasonable truncation and acceptance rule for a Wald SPR sampling process. Unlike the m=1 rule , the deviations of the theoretical OC values from the true OC values for the rules using $m \geq 2$ are considered too great and therefore the (h_1 - m) truncation and acceptance rule for $m \geq 2$ is rejected as reasonable truncation and acceptance rule. Results of testing can be found in Tables V through XVI of Appendix B.

C. THE EXTENDED (h_1 - m) ACCEPTANCE RULE

As discussed earlier , the extended (h_1 - m) acceptance rule attempts to reduce the ASN of a plan by finding truncation points which are strictly less then the NTP. To do this, only one of the true errors will be guaranteed to equal the desired value. The point n_i^* holds alpha constant, for it is smallest sample number at which the probability of a Type I error is equal to alpha. The point n_i^{**} holds beta constant for it is the smallest sample number at which the probability of a Type II error is equal to beta. Since only the (h_1 - 1) acceptance rule is being recognized as an acceptable truncation and acceptance rule , the values for n_i^* and n_i^{**} were computed only for the extended (h_1 - 1) acceptance rule.

The performance of the extended (h_1 - 1) acceptance rule in most test cases was poor. While it did a good job holding one error close to the required value , the

other operating characteristics quickly deviated from their theoretical values so that by the time the alternate error was reached, its true value was usually more than twice its desired value. In addition, for most cases the extended acceptance rule provided only a small savings in ASN , and for a small number of points, the ASN for the nonextended acceptance rule was actually smaller. Results of the testing can be found in Tables XVII through XX of Appendix B.

Overall, the performance of the extended (h_1 - 1) acceptance rule was poor and the rule is not recommended as a truncation and acceptance rule with one possible exception. If the difference between P1 and P2 is large and it is known that Pa is very close to P1, then using the extended acceptance rule may provide some savings in ASN. In all other cases, the nonextended m=0 or m=1 rule is recommended.

D. PROBABILITY OF IMPLEMENTING (h_1 - 1) ACCEPTANCE RULE

The probability that a truncation and acceptance rule will need to be implimented depends greatly on the true value of the actual proportion of noncomforming items in the lot, Pa , which is itself a unknown. Even though the actual probability of implimenting a truncation and acceptance rule is unknown, it is possible to get a rough upper limit for it by using some known parameters such as P1 , P2 , and s.

We have seen that as the difference between P1 and P2 increases, the ASN of a plan decreases and that the maximum value for the ASN of a plan occurs when Pa is approximately equal to s. It is when Pa is approximately equal to s that we have the greatest probability of reaching a truncation point and therefore a need to impliment a truncation and acceptance rule. Using this knowlege and the computed

probabilities of implimenting a truncation rule found from the simulation , a number of models were fitted to the values P1 , P2 , and s using the SAS stepwise logistic regression [Ref. 7] resulting in the following fitted model

$$\widehat{Pr}(\text{reaching NTP}) = \frac{Exp[-2.3415+0.294113Ln(P2-P1)-0.158121Ln(s)]}{1+Exp[-2.3415+0.294113Ln(P2-P1)-0.158121Ln(s)]} \quad .(13)$$

The Chi-square test for goodness-of-fit for the Equation (13) resulted in p-value , 0.0001 and testing of the equation against the actual results from the simulation proved it to be quite accurate over the simulated range. Results of this testing can be seen in Table XXI of Appendix E. Further testing showed that it provided reasonable predictions for parameter set outside of the simulation range. A 95% confidence limit for the maximum probability was also computed and found to be approximately [0.101 , 0.138].

One point to remember is that this equation only provides a rough upper limit for the probability of implimenting a truncation rule and that if Pa is closer to P1 or P2, the actual probability will most likely be quite a bit smaller. graphs of the actual probabilities for each plan can be found in Appendix E, Figures 46 through 51.

E. AREAS FOR FURTHER STUDY

This paper studied the curtailed Wald SPR sampling plan using only one set of values for alpha and beta. A further area of studied might be on how changing the values of alpha and beta impacts on these test results. It is hoped that the work provided in this paper will be beneficial to those interested in sequential sampling and quality control.

APPENDIX A

Computer Program Wald2

```
      PROGRAM WALD2
C
C  THE FOLLOWING PROGRAM SIMULATES THE USE OF A WALD
C  SEQUENTIAL  SAMPLING PLAN AND EVALUATES THE MEAN AND
C  VARIANCE OF THE AVERAGE NUMBER OF ITEMS SAMPLED FOR A GIVEN
C  PROBABILITY OF A NONCONFORMING ITEM.
C  ie.    Pr(item is nonconforming) = Pa
C
C  THE PROGRAM CREATES LOTS OF 5000 ITEMS FROM WHICH ONE ITEM AT
C  A TIME WILL BE RANDOMLY SAMPLED WITHOUT REPLACEMENT AND
C  COMPARED TO A SPECIFIED ITEM REQUIREMENT. THE NUMBER OF
C  NONCONFORMING ITEMS WILL BE COUNTED UNTIL A DECISION TO
C  ACCEPT OR REJECT THE LOT CAN BE MADE.  THE PROCESS WILL BE
C  REPEATED FOR DIFFERENT STOPPING RULES AS DISCUSSED IN THE
C THESIS PAPER.
C
     INCLUDE 'SEQDAT DEF'
     INCLUDE 'LOTSEED DEF'
     INCLUDE 'COUNTER DEF'
     INCLUDE 'STATS DEF'
C
    INTEGER I
    SEED1(1) =  #######
    SEED2(1) = #######
C
C  STARTING SEED VALUES CAN BE CHANGED AT ANY TIME AND WILL
C  CHANGE AUTOMATICALLY EVERY TIME A NEW LOT IS CREATED
C
C//////////////////////////START PLAN SET 1 ////////////////////////////////
C
    DO  10  I = 1 , 5
C
C  THE FOLLOWING SUBROUTINE  INITIALIZES VARIABLE THAT WILL BE
C  USED IN THE SIMULATION
C
     CALL INITOC1
C
C  THE FOLLOWING SUBROUTINE CREATES THE SPECIFICS OF EACH PLAN
C
     CALL SPECS
```

```
C
C  THE FOLLOWING SECTION STARTS THE SIMULATION FOR PLAN SET 1
C
      DO 20 N = 1 , 82
         DO 30 R = 1 , 1000
C
C  THE FOLLOWING  FORMS THE LOTS AND SAMPLING SCHEDULE
C
           CALL FORMLOT
C
C THE FOLLOWING SUBPROGRAM INSPECTS EACH LOT
C
           CALL OCINSP
C
30       CONTINUE
20    CONTINUE
C
C THE FOLLOWING SUBPROGRAMS COMPUTE THE DESIRED STATISTICS
C  AND DISPLAYS THEM
C
      CALL STATCOMP
      CALL DISPLAY1
10 CONTINUE
C
C//////////////////////////END PART 1////////////////////////////////
C
C//////////////////////////START PLAN SET 2////////////////////////////
C
    DO  40  I = 1 , 5
C
C  THE FOLLOWING SUBROUTINE  INITIALIZES VARIABLE THAT WILL BE
C  USED IN THE SIMULATION
C
     CALL INITOC2
C
C  THE FOLLOWING SUBROUTINE CREATES THE SPECIFICS OF EACH PLAN
C
     CALL SPECS
C
C  THE FOLLOWING SECTION STARTS THE SIMULATION FOR PLAN SET 1
C
      DO 50 N = 1 , 82
         DO 60 R = 1 , 1000
C
C  THE FOLLOWING  FORMS THE LOTS AND SAMPLING SCHEDULE
C
```

```
            CALL FORMLOT
C
C THE FOLLOWING SUBPROGRAM INSPECTS EACH LOT
C
            CALL OCINSP
C
30        CONTINUE
20     CONTINUE
C
C THE FOLLOWING SUBPROGRAMS COMPUTE THE DESIRED STATISTICS
C  AND DISPLAYS THEM
C
       CALL STATCOMP
       CALL DISPLAY2
10 CONTINUE
C
C//////////////////////////END PART 2////////////////////////////////
C

*** SAME AS ABOVE FOR PLAN SETS 3 AND 4 ********

C-------------------------------------------------------------------------------
      SUBROUTINE INITOC1
C
       INCLUDE 'SEQDAT2 DEF'
       INCLUDE 'STATS2 DEF'
       INCLUDE ' LOTTS DEF'
C
      INTEGER I , J
C
      DO  10 I = 1 , 82
          P1 = 0.0
          P2 = 0.0
          Pa = 0.0
          Za(I)  = 0.0
          NTP(I) = 0
          DO 20 J = 1 , 1000
              NINSP( I , J ) = 0
              RULE( I , J ) = .FALSE.
              REJECT2( I , J ) = .FALSE.
20        CONTINUE
10     CONTINUE
       OPEN( 13 , FILE = '/OCPLAN1 DATA')
        WRITE(* , * ) "     "
       WRITE(* , * ) "    P1     P2     Pa     NTP    "
      DO 30 I = 1 , 82
```

```
          READ( 13 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
          WRITE( 15 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
15        FORMAT(1X , F5.3 , 2X , F4.2 , 2X , F5.3 , 2X , I4)
30     CONTINUE
       CLOSE(13)
        RETURN
       END
C-------------------------------------------------------------------------------
      SUBROUTINE INITOC2
C
       INCLUDE 'SEQDAT2 DEF'
       INCLUDE 'STATS2 DEF'
       INCLUDE ' LOTTS DEF'
C
      INTEGER I , J
C
      DO  10 I = 1 , 82
          P1 = 0.0
          P2 = 0.0
          Pa = 0.0
          Za(I)  = 0.0
          NTP(I) = 0
          DO 20 J = 1 , 1000
              NINSP( I , J ) = 0
              RULE( I , J ) = .FALSE.
              REJECT2( I , J ) = .FALSE.
20        CONTINUE
10     CONTINUE
       OPEN( 13 , FILE = '/OCPLAN2 DATA')
        WRITE(* , * ) "     "
       WRITE(* , * ) "    P1     P2     Pa     NTP    "
      DO 30 I = 1 , 82
          READ( 13 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
          WRITE( 15 , * )  P1(I) , P2(I) , Pa(I) , NTP(I)
15        FORMAT(1X , F5.3 , 2X , F4.2 , 2X , F5.3 , 2X , I4)
30     CONTINUE
       CLOSE(13)
        RETURN
       END
C-------------------------------------------------------------------------------
 ****** SAME FOR PLAN SETS 3 AND 4 ************
C-------------------------------------------------------------------------------
       SUBROUTINE SPECS
C
      INCLUDE 'SEQDAT2 DEF'
      INCLUDE 'PLAN2 DEF'
```

```
C
C THE SUBROUTINE COMPUTE  h1 , h2 , and s FOR EACH PLAN
C
      INTEGER I
      REAL  DENOM
C
      DO I = 1 , 82
         DENOM = LOG( ( P2(I)*(1.0-P1(I) ) ) / ( P1(I)*( 1.0-P2(I) ) ) )
          H1(I) = 2.25129 / DENOM
          H2(I) = 2.89037 / DENOM
          S(I) = LOG9  (1.0 - P1(I) ) / ( 1.0 - P2(I) ) ) / DENOM
10    CONTINUE
      RETURN
      END
C-------------------------------------------------------------------------------
       SUBROUTINE FORMLOT
C
C  THIS SUBPROGRAM USES THE NAVAL POSTGRADUATE SCHOOLS
C  RANDOM NUMBER GENERATOR TO CREATE A LOT OF 5000 ITEMS FROM
C  A NORMAL DIST. AND THE RANDOM ORDER IN WHICH THE WILL BE
C  SAMPLED
C
       INCLUDE 'LOTTS DEF'
       INCLUDE 'LOTSEED DEF'
       INCLUDE 'COUNTER DEF'
C
      INTEGER I
C
      CALL SNOR( SEED1(1) , LOT , 5000 , 2 , 0 )
      CALL SLINT( SEED2(1) , RANHLD , 5000 , 2)
C
     D0 10 I = 1 , 5000
         SAMPNUM(I) = NINT(RANHLD(I) * 0.00000232)
10    CONTINUE
      RETURN
      END
C-------------------------------------------------------------------------------
       SUBROUTINE OCINSP
C
C  THIS SUBROUTINE INSPECTS THE ITEMS IN THE LOTS AND COLLECTS THE
C  DATA THAT WILL BE USED TO DETERMINE THE OC CURVE AND ASN.
C
       INCLUDE 'SEQDAT2 DEF'
       INCLUDE 'STATS2 DEF'
       INCLUDE 'COUNTER DEF'
       INCLUDE 'LOTTS DEF'
```

```
      INCLUDE 'PLAN2 DEF'
C
      INTEGER SUMX , C , M
      REAL UPX , LOWX , ITEM
      LOGICAL  STPINSP
C
      ITEM = 0.0
      SUMX = 0
      C = 0
      M = 1
C     NOTE THAT THIS IS THE M IN THE H1-M RULE , M=0 MEANS REJECT AT
C     NTP
      STPINSP = .FALSE.
C
99    IF( .NOT.STPINSP ) THEN
        C = C+ 1
        ITEM = ABS( LOT ( SAMPNUM (C) ) )
        IF (ITEM .GT. Za (N) ) THEN
          SUMX = SUMX + 1
        ENDIF
        UPX = H2(N) + C * S(N)
        LOWX =  C * S(N) - H1(N)
C
        IF( C .GE. NTP(N) ) THEN
          RULE( N , R ) = .TRUE.
          STPINSP = .TRUE.
          NINSP( N , R ) = C
          IF ( SUMX .GT. LOWX + M ) THEM
            REJECT2(N , R ) = .TRUE
          ENDIF
        ELSEIF( SUMX . GE. UPX) THEN
          REJECT2(N , R ) = .TRUE.
          STPINSP = .TRUE.
          NINSP( N , R ) = C
        ELSEIF( SUMX . LE. LOWX) THEN
          STPINSP = .TRUE.
          NINSP( N , R ) = C
        ENDIF
        GOTO 99
      ENDIF
       RETURN
      END
C-------------------------------------------------------------------------------
      SUBROUTINE STATCOMP
C
C  THIS SUBROUTINE COMPUTES THE DESIRED STATISTICS SUCH AS ASN
```

```
C
      INCLUDE 'SEQDAT2 DEF'
      INCLUDE 'STATS2 DEF'
      INCLUDE 'PLAN2 DEF'
C
      INTEGER I , J , SUMINSP(82)
      REAL  EXSQ(82)
C
      DO 10 I = 1 , 82
         SUNINSP (I) = 0
         EXSQ(I) = 0.0
         NREJ2(I) = 0
         NSTP2(I) = 0
         CI2(I) = 0.0
         DO 20 J = 1 , 1000
            SUMINSP(I) = SUMINSP(I) + NINSP( I , J )
            IF(RULE( I, J ) ) THEN
               NSTP2(I) = NSTP2(I) + 1
            ENDIF
20       CONTINUE
         AVEN2(I) = SUMINSP(I) / 1000.0
         DO 25 J = 1 , 1000
            EXSQ(I) = EXSQ(I) + ( ( NINSP(I , J) - AVEN2(I) ) **2)
25       CONTINUE
         SAVEN2(I) = SQRT( EXSQ(I) / 1000.0 )
         CI2 = ( SAVEN2(I) / 100.0 ) * 1.95996
         UPCI2(I) = AVEN2(I) + CI2(I)
         LOWCI2(I) = AVEN2(I) - CI2(I)
10    CONTINUE
C
      RETURN
      END
C-------------------------------------------------------------------------------
      SUBROUTINE DISPLAY1
C
C  THIS SUBROUTINE DISPLAYS THE STATISTICS AND WRITES THEM INTO
C  A FILE
C
      INCLUDE  'STATS2 DEF'
      INCLUDE  'SEQDAT2 DEF'
C
      INTEGER I
C
      IF( I .EQ. 1) THEN
         OPEN(31 , FILE= '/OCOUT1A DATA')
      IF( I .EQ. 2) THEN
```

```
      OPEN(32 , FILE= '/OCOUT1B  DATA')
    IF( I .EQ. 3) THEN
      OPEN(33 , FILE= '/OCOUT1C DATA')
    IF( I .EQ. 4) THEN
      OPEN(34 , FILE= '/OCOUT1D  DATA')
    ELSE
      OPEN(35 , FILE = '/OCOUT1E  DATA')
    ENDIF
C
    DO 10 I = 1 , 82
       WRITE( * , * ) '-------------------------------------------------------------'
       WRITE( * , * ) '                    SEQUENTIAL PLAN                          '
       WRITE( * , *) '        P1          P2          Pa          NTP          '
       WRITE( *, 11) P1(I) , P2(I) , Pa(I) , NTP(I)
11     FORMAT ( 4X , F5.3 , 4X , F5.3 , 5X , F5.3 , 7X  , I4 )
       WRITE( *,13) AVEN2(I)
13     FORMAT( 1X , 'MEAN NUMBER INSPECTED.  ' , 2X , F10.3)
       WRITE( *,15) SAVEN2(I)
15     FORMAT( 1X , 'STD DEV OF NUM INSP  ' , 2X , F10.3)
       WRITE(* , 17)  LOWCI2(I) , UPCI2(I)
17     FORMAT(1X , '95% CI ON MEAN (', 1X , F10.3 , 1X , ',' 1X , F10.3 , 1X , ')' )
       WRITE(*.19)  NREJ2(I)
19     FORMAT(1X , 'NUMBER OF LOTS REJECTED ', 2X , F8.1)
       WRITE(*,20)  NSTP2(I)
20     FORMAT(1X , '# OF TIMES STOPPING RULE WAS USED' , 2X , F8.1)
C
       IF (I .EQ. 1 ) THEN
          WRITE(31 , 21 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
   &NSTP2(I)
21        FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
       IF (I .EQ. 1 ) THEN
          WRITE(31 , 22 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
    &NSTP2(I)
22        FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
       IF (I .EQ. 1 ) THEN
          WRITE(31 , 23 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
    &NSTP2(I)
23        FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
       IF (I .EQ. 1 ) THEN
          WRITE(31 , 24 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
    &NSTP2(I)
24        FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
       ELSE
          WRITE(31 , 25 ) P1(I) , P2(I) , Pa(I) AVEN2(I) , SAVEN2(I), NREJ2(I) ,
    &NSTP2(I)
25        FORMAT(1X , 3(F5.3 , 1X) , 3(F10.3 , 1X ) , F8.1)
```

```
        ENDIF
C
10    CONTINUE
      CLOSE(31)
      CLOSE(32)
      CLOSE(33)
      CLOSE(34)
      CLOSE(35)
      RETURN
     END
C-------------------------------------------------------------------------------
**** SAME TYPE OF SUBROUTINE FOR DISPLAYING PLAN SETS 2 , 3, AND 4
       JUST NEED TO CHANGE THE OUTPUT FILES ******
C-------------------------------------------------------------------------------
```

APPENDIX B

Table III - OC CURVE DATA FOR PLAN SET I

(h_1-m) ACCEPTANCE RULE FOR m=(0, 1, 2)

				m = 0			m = 1			m = 2		
			Accept	% Late	Z	P'≤P"	% Late	Z	P'≤P"	% Late	Z	P'≤P"
P1	P2	Pn	@ Pn	Accepted	Statistic	P'≤P"	Accepted	Statistic	P'≤P"	Accepted	Statistic	P'≤P"
			P'	P'			P'			P'		
0.004	0.01	0.005	0.950	0.907	-5.28		0.880	-5.04		0.916	-4.41	
		0.006	0.928	0.782	-5.80		0.784	-5.74		0.782	-5.17	
		0.007	0.824	0.539	-5.45		0.548	-5.55		0.578	-5.01	
		0.008	0.375	0.402	1.75	acc.	0.404	1.88	acc.	0.410	2.27	
		0.009	0.202	0.288	6.26	acc.	0.288	6.47	acc.	0.210	6.55	acc.
		0.010	0.100	0.118	1.62	acc.	0.118	1.92	acc.	0.120	2.02	
0.006	0.02	0.006	0.950	0.905	-0.64	acc.	0.926	1.05	acc.	0.940	2.71	
		0.008	0.785	0.781	-2.69		0.782	-0.23	acc.	0.819	1.92	acc.
		0.010	0.637	0.637	0.00	acc.	0.668	3.41		0.728	6.18	
		0.012	0.467	0.482	-0.32	acc.	0.497	1.06	acc.	0.534	4.24	
		0.014	0.330	0.347	1.14	acc.	0.373	2.85		0.403	4.78	
		0.016	0.224	0.251	2.01		0.266	3.09		0.290	4.78	
		0.018	0.148	0.168	1.56	acc.	0.175	2.32		0.193	3.78	
		0.020	0.100	0.113	1.33	acc.	0.122	2.21		0.133	3.26	
0.008	0.03	0.005	0.950	0.951	0.15	acc.	0.956	0.50	acc.	0.960	1.07	acc.
		0.007	0.882	0.915	2.46		0.924	3.59		0.928	3.98	
		0.010	0.787	0.748	-1.55	acc.	0.786	1.44	acc.	0.801	2.81	
		0.013	0.699	0.695	-0.26	acc.	0.650	2.68		0.685	4.03	
		0.016	0.467	0.489	1.38	acc.	0.515	3.84		0.537	4.48	
		0.019	0.341	0.380	2.87		0.405	4.19		0.427	5.09	
		0.022	0.246	0.273	2.02		0.288	3.98		0.305	4.95	
		0.025	0.170	0.189	0.82	acc.	0.213	2.71		0.226	3.78	
		0.028	0.128	0.132	0.28	acc.	0.141	1.20	acc.	0.151	2.18	
		0.030	0.100	0.116	1.62	acc.	0.120	2.02		0.132	3.16	
0.005	0.04	0.005	0.950	0.952	0.29	acc.	0.977	4.55		0.980	5.16	
		0.007	0.905	0.900	-0.53	acc.	0.931	3.90		0.937	5.76	
		0.010	0.812	0.798	-1.12	acc.	0.861	4.19		0.875	6.48	
		0.013	0.706	0.698	-0.69	acc.	0.761	5.43		0.808	7.62	
		0.016	0.604	0.624	-0.83		0.681	4.38		0.707	6.81	
		0.019	0.492	0.599	1.98	acc.	0.610	7.50		0.645	9.77	
		0.022	0.388	0.369	-1.05	acc.	0.471	4.59		0.514	7.30	
		0.025	0.310	0.314	-0.34	acc.	0.386	4.43		0.414	6.83	
		0.028	0.254	0.257	0.22	acc.	0.333	5.49		0.370	7.82	
		0.031	0.189	0.200	0.68	acc.	0.259	3.87		0.288	5.26	
		0.034	0.159	0.162	-0.61	acc.	0.195	2.88		0.217	4.89	
		0.037	0.126	0.123	-0.19	acc.	0.149	2.21		0.169	3.93	
		0.040	0.100	0.103	0.31	acc.	0.120	2.79		0.143	4.18	
0.005	0.05	0.005	0.950	0.973	2.70		0.981	5.87		0.983	6.00	
		0.008	0.881	0.906	1.67	acc.	0.933	4.89		0.936	5.06	
		0.011	0.812	0.828	1.02	acc.	0.873	5.00		0.881	5.35	

Table III - OC CURVE DATA FOR PLAN SET I

(h_1-m) ACCEPTANCE RULE FOR m={ 0, 1, 2 }

(CONTINUED)

		0.014	0.726	0.888	-1.82	acc.	0.774	3.58		0.782	4.18	
		0.017	0.640	0.838	-0.13	acc.	0.708	4.59		0.723	5.63	
		0.020	0.563	0.856	0.19	acc.	0.644	5.87		0.663	6.46	
		0.023	0.473	0.605	2.82		0.574	6.30		0.582	6.80	
		0.026	0.389	0.434	2.25		0.481	6.85		0.516	7.43	
		0.029	0.330	0.369	1.03	acc.	0.412	6.42		0.428	6.89	
		0.032	0.288	0.278	-0.70	acc.	0.328	2.61		0.340	2.84	
		0.035	0.241	0.264	1.67	acc.	0.303	4.41		0.315	5.02	
		0.038	0.202	0.248	3.26		0.285	6.04		0.298	6.62	
		0.041	0.171	0.188	1.24	acc.	0.214	3.46		0.220	4.06	
		0.044	0.142	0.145	0.27	acc.	0.167	2.18		0.170	2.38	
		0.047	0.118	0.138	1.89	acc.	0.157	3.48		0.162	4.08	
		0.050	0.100	0.087	-1.41	acc.	0.101	0.11	acc.	0.103	0.31	acc.
0.005	0.06	0.005	0.950	0.990	7.42		0.994	8.42		0.994	8.42	
		0.009	0.878	0.913	3.62		0.931	5.70		0.931	5.70	
		0.013	0.788	0.812	2.06		0.857	5.86		0.858	6.05	
		0.017	0.695	0.716	1.48	acc.	0.788	6.47		0.788	6.62	
		0.021	0.600	0.668	3.89		0.718	7.73		0.717	7.89	
		0.025	0.499	0.542	2.72		0.594	6.93		0.596	6.16	
		0.029	0.423	0.458	2.23		0.502	5.91		0.508	6.29	
		0.033	0.352	0.398	3.08		0.439	5.63		0.442	5.82	
		0.037	0.293	0.321	1.82	acc.	0.388	6.04		0.373	5.87	
		0.041	0.248	0.250	0.87	acc.	0.305	2.87		0.306	2.94	
		0.045	0.202	0.213	0.78	acc.	0.238	2.74		0.241	2.80	
		0.049	0.167	0.188	-0.88	acc.	0.182	1.25	acc.	0.183	1.33	acc.
		0.053	0.137	0.124	-1.22	acc.	0.135	-0.18	acc.	0.138	0.00	acc.
		0.057	0.118	0.125	0.87	acc.	0.127	2.00	acc.	0.128	2.00	
		0.060	0.100	0.124	2.41		0.127	2.69		0.128	2.79	
0.005	0.07	0.005	0.950	0.959	1.37	acc.	0.994	8.92		0.994	8.92	
		0.010	0.868	0.871	0.47	acc.	0.838	7.68		0.839	7.78	
		0.015	0.767	0.788	1.80	acc.	0.673	8.72		0.675	8.91	
		0.020	0.668	0.662	-0.47	acc.	0.768	6.27		0.781	6.44	
		0.025	0.561	0.577	1.02	acc.	0.787	8.58		0.788	8.72	
		0.030	0.464	0.488	1.82	acc.	0.817	8.71		0.820	10.00	
		0.035	0.387	0.390	0.18	acc.	0.594	7.44		0.598	7.78	
		0.040	0.321	0.287	-1.84	acc.	0.484	5.46		0.488	5.72	
		0.045	0.268	0.239	-2.18		0.338	4.21		0.335	4.55	
		0.050	0.218	0.211	-0.62	acc.	0.285	4.01		0.289	4.80	
		0.055	0.181	0.188	0.66	acc.	0.243	4.80		0.248	5.16	
		0.060	0.148	0.153	0.44	acc.	0.217	5.05		0.222	5.69	
		0.065	0.121	0.110	-1.00	acc.	0.155	3.12		0.157	3.50	
		0.070	0.100	0.116	1.62	acc.	0.141	4.08		0.145	4.84	

Table IV - OC CURVE DATA FOR PLAN SET II

(h1-m) ACCEPTANCE RULE FOR m={ 0, 1, 2 }

				m = 0			m = 1			m = 2		
P1	P2	Pn	Accept @ Pn P'	% Lots Accepted P'	Z Statistic	P'<P" P'>P"	% Lots Accepted P'	Z Statistic	P'<P" P'>P"	% Lots Accepted P'	Z Statistic	P'<P" P'>P"
0.01	0.02	0.010	0.950	0.952	1.66	acc.	0.987	2.70		0.971	3.41	
		0.012	0.898	0.906	1.16	acc.	0.917	2.38		0.925	3.21	
		0.014	0.812	0.839	2.25		0.862	3.38		0.871	3.11	
		0.016	0.706	0.714	0.68	acc.	0.732	1.83	acc.	0.786	3.48	
		0.018	0.601	0.562	-1.16	acc.	0.598	0.46	acc.	0.689	1.66	acc.
		0.020	0.448	0.464	0.38	acc.	0.476	1.71	acc.	0.607	3.18	
		0.022	0.362	0.311	-2.76		0.391	-1.49	acc.	0.503	3.73	acc.
		0.024	0.260	0.274	1.73	acc.	0.304	0.43		0.381	3.81	
		0.026	0.188	0.169	-1.67	acc.	0.174	-1.18	acc.	0.187	-0.08	acc.
		0.028	0.139	0.162	1.17	acc.	0.188	1.60	acc.	0.183	2.12	
		0.030	0.100	0.118	1.82	acc.	0.124	2.41		0.134	2.25	
0.01	0.04	0.010	0.950	0.958	1.21	acc.	0.968	2.05		0.978	3.73	
		0.012	0.884	0.861	-0.20	acc.	0.907	1.82	acc.	0.909	2.89	
		0.014	0.780	0.768	-1.08	acc.	0.800	0.78	acc.	0.832	2.98	
		0.016	0.682	0.643	-2.68		0.692	0.61	acc.	0.731	2.24	
		0.022	0.548	0.528	-1.27	acc.	0.566	1.08	acc.	0.622	4.00	
		0.026	0.436	0.397	-2.50		0.435	-0.06	acc.	0.474	2.41	
		0.028	0.325	0.331	0.40	acc.	0.366	2.07		0.402	3.06	
		0.031	0.260	0.267	0.61	acc.	0.292	2.26		0.308	4.00	
		0.034	0.185	0.179	-0.48	acc.	0.198	1.12	acc.	0.227	3.08	
		0.037	0.137	0.134	-0.28	acc.	0.147	0.8	acc.	0.164	2.90	
		0.040	0.100	0.090	-1.08	acc.	0.097	-0.32	acc.	0.104	0.42	
0.01	0.05	0.010	0.950	0.936	-1.91	acc.	0.954	0.58	acc.	0.983	2.82	
		0.012	0.900	0.891	-0.93	acc.	0.927	3.04		0.937	4.28	
		0.018	0.828	0.847	1.83	acc.	0.886	5.24		0.909	7.58	
		0.019	0.743	0.741	-0.14	acc.	0.791	3.59		0.826	6.38	
		0.022	0.654	0.666	0.89	acc.	0.732	5.42		0.768	7.85	
		0.026	0.562	0.572	0.67	acc.	0.630	4.82		0.666	6.69	
		0.028	0.467	0.458	-0.57	acc.	0.518	2.72		0.562	5.01	
		0.031	0.387	0.376	-0.78	acc.	0.424	2.88		0.480	4.87	
		0.034	0.303	0.300	-0.21	acc.	0.337	2.90		0.374	4.74	
		0.037	0.264	0.263	-0.07	acc.	0.288	2.48		0.320	4.61	
		0.040	0.203	0.188	-0.38	acc.	0.217	1.08	acc.	0.247	3.33	
		0.042	0.177	0.162	-1.26	acc.	0.184	0.68	acc.	0.210	3.84	
		0.044	0.154	0.144	-0.89	acc.	0.157	0.26	acc.	0.182	3.48	
		0.047	0.125	0.131	0.67	acc.	0.148	2.12		0.168	3.86	
		0.050	0.100	0.124	2.41		0.135	3.44		0.146	4.43	
0.01	0.06	0.010	0.950	0.955	0.74	acc.	0.974	3.87		0.978	4.96	
		0.012	0.899	0.917	2.07	acc.	0.952	4.88		0.963	7.09	
		0.018	0.855	0.847	-0.71	acc.	0.893	3.62		0.918	6.48	

Table IV - OC CURVE DATA FOR PLAN SET I

(h_1-m) ACCEPTANCE RULE FOR m=(0, 1, 2)

(CONTINUED)

		0.010	0.786	0.782	-1.81	acc.	0.810	2.82		0.844	4.72	
		0.022	0.711	0.805	-1.11	acc.	0.760	2.44		0.795	4.16	
		0.025	0.642	0.813	-1.84	acc.	0.676	2.13		0.721	3.80	
		0.028	0.585	0.644	-1.24	acc.	0.609	2.83		0.662	3.30	
		0.031	0.488	0.434	-2.30		0.515	1.83	acc.	0.555	2.37	
		0.035	0.402	0.367	-2.28		0.428	1.72	acc.	0.480	2.07	
		0.040	0.309	0.308	-0.07	acc.	0.353	2.06		0.396	2.76	
		0.042	0.284	0.248	-1.16	acc.	0.290	1.84	acc.	0.338	2.18	
		0.046	0.224	0.215	-0.69	acc.	0.250	1.83	acc.	0.287	2.07	
		0.049	0.185	0.182	-0.25	acc.	0.213	2.22		0.247	2.76	
		0.061	0.167	0.170	0.26	acc.	0.186	2.30		0.218	3.00	
		0.054	0.142	0.130	-1.11	acc.	0.150	0.72	acc.	0.176	2.04	
		0.057	0.118	0.105	-1.40	acc.	0.114	-0.48	acc.	0.135	1.52	acc.
		0.060	0.100	0.075	-2.50		0.079	-2.33		0.093	-0.76	acc.
0.01	0.07	0.010	0.860	0.855	0.74	acc.	0.866	2.82		0.869	3.66	
		0.015	0.806	0.862	1.74	acc.	0.824	2.80		0.828	3.67	
		0.020	0.786	0.818	2.54		0.857	2.86		0.876	7.60	
		0.025	0.708	0.687	-0.21	acc.	0.762	2.69		0.768	4.67	
		0.030	0.587	0.577	-0.34	acc.	0.642	2.84		0.671	5.60	
		0.035	0.486	0.478	-0.44	acc.	0.538	2.16		0.570	5.32	
		0.040	0.393	0.393	0.00	acc.	0.447	2.46		0.471	4.68	
		0.045	0.308	0.303	-0.41	acc.	0.340	2.00		0.368	3.84	
		0.050	0.260	0.244	-0.44	acc.	0.270	1.44	acc.	0.288	2.71	
		0.055	0.189	0.182	-1.87	acc.	0.210	0.86	acc.	0.226	2.00	
		0.060	0.162	0.148	-1.40	acc.	0.168	0.81	acc.	0.187	2.00	
		0.065	0.126	0.118	-0.77	acc.	0.130	0.38	acc.	0.144	1.67	acc.
		0.070	0.100	0.106	0.62	acc.	0.111	1.12	acc.	0.118	1.82	acc.
0.01	0.08	0.010	0.880	0.856	0.90	acc.	0.873	2.76		0.874	3.87	
		0.015	0.892	0.881	-1.10	acc.	0.821	2.15		0.828	3.98	
		0.020	0.808	0.788	-1.88	acc.	0.855	2.87		0.875	5.80	
		0.025	0.727	0.726	-0.14	acc.	0.811	2.30		0.830	7.04	
		0.030	0.613	0.633	1.31	acc.	0.714	0.76		0.735	8.23	
		0.035	0.543	0.544	0.04	acc.	0.613	4.48		0.646	8.63	
		0.040	0.464	0.430	-1.63	acc.	0.524	4.62		0.568	8.46	
		0.045	0.387	0.383	0.30	acc.	0.450	5.02		0.514	8.87	
		0.050	0.310	0.292	-1.85	acc.	0.380	4.05		0.428	7.13	
		0.055	0.241	0.270	2.74		0.330	6.63		0.372	6.86	
		0.060	0.224	0.228	0.38	acc.	0.274	3.66		0.304	5.74	
		0.065	0.185	0.168	-1.41	acc.	0.205	1.60	acc.	0.231	3.58	
		0.070	0.161	0.122	-2.67		0.152	0.09	acc.	0.167	2.84	
		0.075	0.123	0.110	-0.30	acc.	0.146	2.12		0.163	3.61	
		0.080	0.100	0.100	0.03	acc.	0.126	2.44		0.148	4.01	

Table V - DATA OUTPUT PLAN SET I

(h_1-1) ACCEPTANCE RULE

P1	P2	Pa	MOQ	ASN(Pa)	Plan #1 Mean # Inspected	Plan #1 Std Dev # Insp.	Mean CI (+ -)	Accept @ Pa	% Lots Accepted	Ave # Times Plan Rule	Plotting point(s)
0.005	0.01	0.005	4605	1287	1212.6	833.0	40.0	0.950	0.922	19.6	0.020
		0.006		1603	1513.2	1165.7	50.6	0.928	0.776	52.5	0.053
		0.007		2085	1743.0	1208.8	52.0	0.924	0.905	55.6	0.056
		0.008		1764	1698.7	1197.0	52.6	0.375	0.491	56.6	0.057
		0.009		1485	1558.2	1126.4	49.4	0.203	0.240	49	0.049
		0.010		1225	1321.2	1022.2	44.8	0.100	0.147	23	0.023
0.005	0.02	0.006	782	264	277.6	184.6	7.2	0.909	0.921	84	0.084
		0.008		201	202.4	182.9	6.0	0.795	0.902	66.5	0.067
		0.010		826	828.1	189.9	8.7	0.537	0.662	127	0.127
		0.012		202	218.1	203.8	6.0	0.467	0.602	121	0.121
		0.014		270	208.0	188.6	8.7	0.230	0.267	86	0.086
		0.016		241	288.0	182.1	8.5	0.224	0.272	76.5	0.077
		0.018		213	252.5	178.5	7.9	0.148	0.186	45	0.045
		0.020		186	224.5	164.0	7.2	0.100	0.123	30.5	0.031
0.005	0.03	0.005	375	122	124.3	84.0	2.8	0.950	0.942	20	0.020
		0.007		134	144.4	82.6	3.6	0.892	0.915	48.5	0.049
		0.010		148	155.8	88.3	4.2	0.787	0.785	84.5	0.085
		0.013		150	163.2	101.8	4.6	0.680	0.663	100.5	0.101
		0.016		128	154.6	102.8	4.6	0.467	0.514	84.5	0.085
		0.019		126	146.8	100.6	4.4	0.341	0.379	67.5	0.068
		0.022		113	136.0	97.4	4.2	0.245	0.268	50	0.050
		0.025		100	123.4	91.7	4.0	0.176	0.184	34	0.034
		0.028		88	107.6	83.8	3.7	0.128	0.130	18	0.018
		0.030		82	102.1	79.8	3.6	0.100	0.110	13.5	0.014
0.005	0.04	0.005	182	80	79.8	34.0	1.5	0.950	0.973	63.5	0.064
		0.007		84	86.8	41.0	1.8	0.905	0.935	115	0.116
		0.010		88	85.1	48.4	2.1	0.812	0.869	178	0.179
		0.013		89	84.0	50.6	2.2	0.704	0.780	164.5	0.166
		0.016		83	86.6	51.0	2.3	0.594	0.668	138	0.139
		0.019		82	83.0	54.4	2.4	0.492	0.561	121	0.121
		0.022		78	80.4	54.2	2.4	0.389	0.491	109	0.109
		0.025		74	80.1	53.3	2.3	0.310	0.389	144.5	0.145
		0.028		68	78.7	53.1	2.3	0.264	0.316	116.5	0.117
		0.031		63	76.0	52.6	2.3	0.189	0.252	104	0.104
		0.034		59	71.3	51.7	2.3	0.159	0.193	89	0.090
		0.037		53	68.7	49.3	2.2	0.125	0.156	70.5	0.071
		0.040		49	61.1	48.4	2.0	0.100	0.134	49	0.049
0.005	0.05	0.005	161	60	60.2	26.3	1.2	0.950	0.952	43	0.043
		0.008		62	67.5	34.0	1.5	0.891	0.934	100	0.100
		0.011		62	71.1	37.2	1.6	0.812	0.872	100	0.100

Table V - DATA OUTPUT PLAN SET I

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014		63	70.0	38.5	1.7	0.725	0.784	124.5	0.125
		0.017		63	72.1	41.4	1.8	0.640	0.705	142.5	0.143
		0.020		70	71.8	42.5	1.9	0.553	0.627	146.5	0.148
		0.023		62	70.7	42.0	1.8	0.473	0.553	139	0.139
		0.026		57	69.0	42.1	1.8	0.398	0.483	121	0.121
		0.029		55	68.3	41.7	1.8	0.330	0.423	106	0.106
		0.032		49	63.8	41.5	1.8	0.288	0.345	87	0.087
		0.035		46	60.4	41.2	1.8	0.241	0.298	80.5	0.081
		0.038		43	56.7	39.7	1.7	0.202	0.260	65.5	0.066
		0.041		41	52.2	37.1	1.6	0.171	0.181	49.5	0.041
		0.044		38	49.9	35.6	1.6	0.142	0.162	35	0.035
		0.047		36	46.5	34.0	1.5	0.119	0.134	24.5	0.025
		0.050		34	42.3	31.8	1.4	0.100	0.001	12.5	0.013
0.005	0.06	0.005	120	46	48.8	21.7	0.9	0.050	0.076	34.5	0.035
		0.009		49	53.5	27.0	1.2	0.070	0.038	65.5	0.066
		0.013		49	56.8	30.8	1.4	0.788	0.058	88	0.088
		0.017		50	58.0	32.3	1.4	0.888	0.775	104	0.104
		0.021		56	58.2	34.3	1.5	0.800	0.675	111.5	0.112
		0.025		49	56.6	34.5	1.5	0.488	0.597	101	0.101
		0.029		43	55.1	34.5	1.5	0.423	0.515	86.5	0.087
		0.033		40	51.9	34.1	1.5	0.352	0.432	82	0.082
		0.037		38	49.3	32.9	1.4	0.293	0.371	63	0.063
		0.041		35	47.7	33.4	1.5	0.245	0.286	60	0.060
		0.045		33	43.3	30.2	1.3	0.203	0.224	34	0.034
		0.049		31	41.3	29.1	1.3	0.167	0.188	26	0.026
		0.053		29	37.5	27.3	1.2	0.137	0.153	17.5	0.018
		0.057		27	35.9	26.7	1.2	0.116	0.118	13.5	0.014
		0.060		25	34.4	25.8	1.1	0.100	0.098	10.5	0.011
0.005	0.07	0.005	74	37	48.2	14.9	0.7	0.050	0.070	158	0.158
		0.010		38	43.0	17.6	0.8	0.066	0.039	223	0.223
		0.015		40	44.5	18.8	0.8	0.767	0.070	265.5	0.266
		0.020		41	44.4	20.1	0.9	0.068	0.785	276.5	0.277
		0.025		42	44.7	20.5	0.9	0.581	0.694	268.5	0.269
		0.030		38	42.7	20.9	0.9	0.484	0.570	232.5	0.233
		0.035		34	40.8	21.3	0.9	0.397	0.485	206.5	0.206
		0.040		31	38.7	21.3	0.9	0.321	0.423	176.5	0.177
		0.045		28	36.0	20.9	0.9	0.258	0.342	148	0.148
		0.050		27	35.5	20.7	0.9	0.210	0.284	127.5	0.128
		0.055		25	33.8	20.4	0.9	0.181	0.244	108	0.108
		0.060		23	31.7	19.9	0.9	0.148	0.205	89.5	0.090
		0.065		21	30.6	19.1	0.8	0.121	0.167	68.5	0.067
		0.070		20	30.0	19.0	0.8	0.100	0.131	60.5	0.060

Table VI - ASN TESTING , PLAN SET I

(h_1-1) ACCEPTANCE RULE

			Plan 01		Computed					
				Mean #		t		Ho: μ1 = μ2		Ho: μ1 = μ2
P1	P2	Pa	ASN(Pa)	Inspected	Difference	Statistic	t(.05)	Ha: μ1 < μ2	t(.01)	Ha: μ1 < μ2
0.005	0.01	0.005	1287	1312.5	25.35	1.21	-1.646	Accept	-2.328	Acc.
		0.006	1603	1613.2	10.47	0.41	-1.646	Accept	-2.328	Acc.
		0.007	2085	1743.9	-341.08	-12.64	-1.646	R	-2.328	R
		0.008	1764	1699.7	-64.03	-2.39	-1.646	R	-2.328	R
		0.009	1485	1555.2	70.04	2.78	-1.646	Accept	-2.328	Acc.
		0.010	1225	1321.2	96.46	4.22	-1.646	Accept	-2.328	Acc.
0.005	0.02	0.006	284	277.5	13.85	3.76	-1.646	Accept	-2.328	Acc.
		0.008	301	302.4	1.50	0.37	-1.646	Accept	-2.328	Acc.
		0.010	325	329.1	3.73	0.84	-1.646	Accept	-2.328	Acc.
		0.012	302	318.1	16.30	3.58	-1.646	Accept	-2.328	Acc.
		0.014	270	298.0	28.12	6.34	-1.646	Accept	-2.328	Acc.
		0.016	241	288.8	47.50	11.00	-1.646	Accept	-2.328	Acc.
		0.018	213	252.5	39.95	9.95	-1.646	Accept	-2.328	Acc.
		0.020	186	224.5	38.85	10.59	-1.646	Accept	-2.328	Acc.
0.005	0.03	0.005	122	124.3	1.87	1.29	-1.646	Accept	-2.328	Acc.
		0.007	134	144.4	10.50	5.68	-1.646	Accept	-2.328	Acc.
		0.010	146	155.8	10.21	4.74	-1.646	Accept	-2.328	Acc.
		0.013	150	163.2	13.19	5.80	-1.646	Accept	-2.328	Acc.
		0.016	138	154.6	16.81	7.23	-1.646	Accept	-2.328	Acc.
		0.019	126	146.8	21.20	9.42	-1.646	Accept	-2.328	Acc.
		0.022	113	136.0	23.38	10.74	-1.646	Accept	-2.328	Acc.
		0.025	100	123.4	23.48	11.45	-1.646	Accept	-2.328	Acc.
		0.028	88	107.6	19.41	10.36	-1.646	Accept	-2.328	Acc.
		0.030	82	102.1	19.82	11.12	-1.646	Accept	-2.328	Acc.
0.005	0.04	0.005	80	79.8	0.26	0.33	-1.646	Accept	-2.328	Acc.
		0.007	84	86.8	2.49	2.66	-1.646	Accept	-2.328	Acc.
		0.010	88	95.1	7.11	6.57	-1.646	Accept	-2.328	Acc.
		0.013	89	94.9	5.81	4.96	-1.646	Accept	-2.328	Acc.
		0.016	83	96.6	13.92	11.99	-1.646	Accept	-2.328	Acc.
		0.019	83	93.6	10.99	9.03	-1.646	Accept	-2.328	Acc.
		0.022	79	90.4	11.71	9.85	-1.646	Accept	-2.328	Acc.
		0.025	74	88.1	14.50	12.16	-1.646	Accept	-2.328	Acc.
		0.028	68	79.7	11.61	9.78	-1.646	Accept	-2.328	Acc.
		0.031	63	76.9	13.74	11.64	-1.646	Accept	-2.328	Acc.
		0.034	58	71.3	13.37	11.57	-1.646	Accept	-2.328	Acc.
		0.037	53	66.7	13.20	11.97	-1.646	Accept	-2.328	Acc.
		0.040	49	61.1	11.92	11.49	-1.646	Accept	-2.328	Acc.
0.005	0.05	0.005	58	60.3	2.02	3.43	-1.646	Accept	-2.328	Acc.
		0.008	62	67.5	5.49	7.06	-1.646	Accept	-2.328	Acc.
		0.011	63	71.1	7.84	9.40	-1.646	Accept	-2.328	Acc.

Table VI - ASN TESTING , PLAN SET I

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014	63	70.9	8.04	9.34	-1.646	Accept	-2.328	Acc.
		0.017	63	72.1	8.82	9.52	-1.646	Accept	-2.328	Acc.
		0.020	70	71.8	2.06	2.16	-1.646	Accept	-2.328	Acc.
		0.023	62	70.7	8.65	9.21	-1.646	Accept	-2.328	Acc.
		0.026	57	69.0	11.89	12.82	-1.646	Accept	-2.328	Acc.
		0.029	55	66.3	11.19	12.01	-1.646	Accept	-2.328	Acc.
		0.032	49	63.8	14.50	15.83	-1.646	Accept	-2.328	Acc.
		0.035	46	60.4	13.92	15.11	-1.646	Accept	-2.328	Acc.
		0.038	43	56.7	13.24	14.92	-1.646	Accept	-2.328	Acc.
		0.041	41	52.2	11.49	13.87	-1.646	Accept	-2.328	Acc.
		0.044	38	49.0	10.70	13.45	-1.646	Accept	-2.328	Acc.
		0.047	36	45.5	9.47	12.48	-1.646	Accept	-2.328	Acc.
		0.050	34	42.3	8.40	11.81	-1.646	Accept	-2.328	Acc.
0.005	0.06	0.005	46	48.8	3.17	6.55	-1.646	Accept	-2.328	Acc.
		0.009	48	53.5	5.20	8.62	-1.646	Accept	-2.328	Acc.
		0.013	49	56.6	7.99	11.59	-1.646	Accept	-2.328	Acc.
		0.017	50	58.0	7.61	10.53	-1.646	Accept	-2.328	Acc.
		0.021	56	58.2	2.13	2.78	-1.646	Accept	-2.328	Acc.
		0.025	49	56.6	7.20	9.34	-1.646	Accept	-2.328	Acc.
		0.029	43	55.1	12.22	15.82	-1.646	Accept	-2.328	Acc.
		0.033	40	51.9	11.46	15.02	-1.646	Accept	-2.328	Acc.
		0.037	38	49.3	11.60	15.92	-1.646	Accept	-2.328	Acc.
		0.041	35	47.7	12.79	17.12	-1.646	Accept	-2.328	Acc.
		0.045	33	43.3	10.69	15.82	-1.646	Accept	-2.328	Acc.
		0.049	31	41.3	10.83	16.62	-1.646	Accept	-2.328	Acc.
		0.053	29	37.5	8.91	14.61	-1.646	Accept	-2.328	Acc.
		0.057	27	35.9	9.37	15.72	-1.646	Accept	-2.328	Acc.
		0.060	25	34.4	9.09	15.76	-1.646	Accept	-2.328	Acc.
0.005	0.07	0.005	37	40.2	2.82	8.48	-1.646	Accept	-2.328	Acc.
		0.010	39	43.0	3.91	9.99	-1.646	Accept	-2.328	Acc.
		0.015	40	44.5	4.90	11.67	-1.646	Accept	-2.328	Acc.
		0.020	41	44.4	2.99	6.85	-1.646	Accept	-2.328	Acc.
		0.025	42	44.7	2.36	5.15	-1.646	Accept	-2.328	Acc.
		0.030	38	42.7	5.07	10.86	-1.646	Accept	-2.328	Acc.
		0.035	34	40.8	7.18	15.09	-1.646	Accept	-2.328	Acc.
		0.040	31	38.7	7.69	16.17	-1.646	Accept	-2.328	Acc.
		0.045	28	36.8	8.43	18.04	-1.646	Accept	-2.328	Acc.
		0.050	27	35.5	8.96	19.39	-1.646	Accept	-2.328	Acc.
		0.055	25	33.8	9.23	20.24	-1.646	Accept	-2.328	Acc.
		0.060	23	31.7	8.78	19.75	-1.646	Accept	-2.328	Acc.
		0.065	21	29.6	8.14	19.04	-1.646	Accept	-2.328	Acc.
		0.070	20	28.3	8.35	19.85	-1.646	Accept	-2.328	Acc.

Table VII - OC CURVE TESTING , PLAN SET I

(h_1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN #1 Accept @ Pa p2	% Lots Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.005	0.01	0.005	0.950	0.922	0.005	-5.12	1.960	R	2.054	R
		0.006	0.928	0.778	0.009	-5.67	1.960	R	2.054	R
		0.007	0.824	0.695	0.011	-1.78	1.960	Accept	2.054	Accept
		0.008	0.375	0.401	0.011	2.30	1.960	R	2.054	R
		0.009	0.203	0.240	0.009	3.85	1.960	R	2.054	R
		0.010	0.108	0.147	0.007	6.32	1.960	R	2.054	R
0.005	0.02	0.005	0.909	0.821	0.005	1.78	1.960	Accept	2.054	Accept
		0.006	0.705	0.602	0.009	6.82	1.960	Accept	2.054	Accept
		0.010	0.537	0.462	0.011	2.30	1.960	R	2.054	R
		0.012	0.447	0.362	0.011	3.14	1.960	R	2.054	R
		0.014	0.320	0.257	0.011	5.48	1.960	R	2.054	R
		0.016	0.224	0.172	0.010	5.02	1.960	R	2.054	R
		0.018	0.148	0.100	0.008	4.53	1.960	R	2.054	R
		0.020	0.100	0.123	0.007	3.20	1.960	R	2.054	R
0.005	0.03	0.005	0.950	0.862	0.005	2.62	1.960	R	2.054	R
		0.007	0.892	0.815	0.007	3.38	1.960	R	2.054	R
		0.010	0.767	0.765	0.009	1.00	1.960	Accept	2.054	Accept
		0.013	0.609	0.563	0.011	5.01	1.960	R	2.054	R
		0.016	0.467	0.514	0.011	4.22	1.960	R	2.054	R
		0.019	0.341	0.379	0.011	3.48	1.960	R	2.054	R
		0.022	0.245	0.268	0.010	2.33	1.960	R	2.054	R
		0.025	0.176	0.184	0.009	2.05	1.960	R	2.054	Accept
		0.028	0.128	0.130	0.008	0.20	1.960	Accept	2.054	Accept
		0.030	0.100	0.110	0.007	1.46	1.960	Accept	2.054	Accept
0.005	0.04	0.005	0.950	0.872	0.004	5.35	1.960	R	2.054	R
		0.007	0.905	0.835	0.006	4.99	1.960	R	2.054	R
		0.010	0.812	0.749	0.008	7.90	1.960	R	2.054	R
		0.013	0.704	0.720	0.010	7.60	1.960	R	2.054	R
		0.016	0.604	0.648	0.011	8.00	1.960	R	2.054	R
		0.019	0.502	0.561	0.011	8.12	1.960	R	2.054	R
		0.022	0.308	0.461	0.011	8.60	1.960	R	2.054	R
		0.025	0.318	0.369	0.011	8.62	1.960	R	2.054	R
		0.028	0.264	0.315	0.010	8.01	1.960	R	2.054	R
		0.031	0.199	0.252	0.009	8.03	1.960	R	2.054	R
		0.034	0.168	0.183	0.009	3.02	1.960	R	2.054	R
		0.037	0.125	0.166	0.008	5.26	1.960	R	2.054	R
		0.040	0.100	0.124	0.007	4.73	1.960	R	2.054	R
0.005	0.05	0.005	0.950	0.862	0.004	7.00	1.960	R	2.054	R
		0.008	0.891	0.834	0.006	6.83	1.960	R	2.054	R
		0.011	0.812	0.873	0.008	7.46	1.960	R	2.054	R

Table VII - OC CURVE TESTING , PLAN SET I

(h_1-1) ACCEPTANCE RULE

		0.014	0.725	0.794	0.010	7.27	1.000	R	2.064	R
		0.017	0.640	0.705	0.010	6.24	1.000	R	2.064	R
		0.020	0.563	0.627	0.011	7.88	1.000	R	2.064	R
		0.023	0.473	0.553	0.011	7.18	1.000	R	2.064	R
		0.026	0.399	0.482	0.011	6.48	1.000	R	2.064	R
		0.029	0.330	0.423	0.011	5.87	1.000	R	2.064	R
		0.032	0.288	0.345	0.010	5.42	1.000	R	2.064	R
		0.035	0.241	0.305	0.010	5.48	1.000	R	2.064	R
		0.038	0.202	0.260	0.008	5.06	1.000	R	2.064	R
		0.041	0.171	0.181	0.000	2.32	1.000	R	2.064	R
		0.044	0.142	0.162	0.000	2.61	1.000	R	2.064	R
		0.047	0.110	0.134	0.007	1.88	1.000	Accept	2.064	Accept
		0.050	0.100	0.081	0.007	-1.87	1.000	Accept	2.064	Accept
0.005	0.06	0.005	0.950	0.976	0.004	0.02	1.000	R	2.064	R
		0.009	0.878	0.928	0.008	0.26	1.000	R	2.064	R
		0.013	0.796	0.858	0.009	0.44	1.000	R	2.064	R
		0.017	0.688	0.775	0.010	0.09	1.000	R	2.064	R
		0.021	0.600	0.675	0.011	0.05	1.000	R	2.064	R
		0.025	0.499	0.597	0.011	0.09	1.000	R	2.064	R
		0.029	0.422	0.515	0.011	0.21	1.000	R	2.064	R
		0.033	0.352	0.432	0.011	7.25	1.000	R	2.064	R
		0.037	0.293	0.371	0.011	7.28	1.000	R	2.064	R
		0.041	0.245	0.286	0.010	6.12	1.000	R	2.064	R
		0.045	0.203	0.224	0.009	5.26	1.000	R	2.064	R
		0.049	0.167	0.188	0.009	5.28	1.000	R	2.064	R
		0.053	0.137	0.152	0.008	5.08	1.000	R	2.064	R
		0.057	0.110	0.115	0.007	-0.11	1.000	Accept	2.064	Accept
		0.060	0.100	0.098	0.007	-0.37	1.000	Accept	2.064	Accept
0.005	0.07	0.005	0.950	0.978	0.004	0.58	1.000	R	2.064	R
		0.010	0.866	0.939	0.007	10.90	1.000	R	2.064	R
		0.015	0.767	0.870	0.009	11.02	1.000	R	2.064	R
		0.020	0.668	0.785	0.010	11.04	1.000	R	2.064	R
		0.025	0.561	0.698	0.011	12.42	1.000	R	2.064	R
		0.030	0.464	0.619	0.011	10.27	1.000	R	2.064	R
		0.035	0.387	0.485	0.011	0.71	1.000	R	2.064	R
		0.040	0.321	0.423	0.011	0.47	1.000	R	2.064	R
		0.045	0.268	0.342	0.010	7.09	1.000	R	2.064	R
		0.050	0.218	0.304	0.010	6.86	1.000	R	2.064	R
		0.055	0.181	0.244	0.009	6.09	1.000	R	2.064	R
		0.060	0.148	0.205	0.009	6.06	1.000	R	2.064	R
		0.065	0.121	0.167	0.008	5.84	1.000	R	2.064	R
		0.070	0.100	0.131	0.007	4.34	1.000	R	2.064	R

Table VIII - DATA OUTPUT PLAN SET II

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	NCO	ASN(Pa)	Plan 02 Mean # Inspected	Std Dev # Insp.	Mean CI [illegible]	Accept @ Pa	% Lots Accepted	Ave # Times Stop Rule	[illegible]
0.01	0.02	0.010	714	217	216.6	121.4	5.8	0.950	0.944	14.8	0.016
		0.012		246	247.6	159.1	7.0	0.895	0.916	27	0.027
		0.014		271	271.6	176.2	7.7	0.812	0.820	58	[illegible]
		0.016		295	292.7	189.3	4.3	0.794	0.727	77.5	0.078
		0.018		303	307.1	199.2	8.7	0.601	0.602	93.6	[illegible]
		0.020		298	297.8	200.0	8.8	0.448	0.485	88	[illegible]
		0.022		287	291.6	198.5	8.6	0.362	0.335	84	[illegible]
		0.024		260	262.0	185.2	8.1	0.250	0.298	55.5	[illegible]
		0.026		222	250.2	179.0	7.9	0.188	0.191	48	[illegible]
		0.028		199	225.2	161.0	7.1	0.139	0.151	23.5	[illegible]
		0.030		181	207.9	159.0	6.9	0.100	0.120	20.5	0.021
0.01	0.04	0.010	260	121	120.7	66.5	2.9	0.950	0.958	21	0.021
		0.013		134	128.0	82.0	3.6	0.884	0.891	57	0.057
		0.016		145	155.0	92.6	4.1	0.790	0.800	96	[illegible]
		0.019		162	163.3	98.6	4.3	0.683	0.694	116	0.116
		0.022		165	164.9	101.5	4.5	0.549	0.579	129.5	0.129
		0.025		150	161.0	101.2	4.4	0.436	0.454	121.5	0.122
		0.028		138	151.6	98.5	4.3	0.325	0.359	95	[illegible]
		0.031		123	140.6	96.9	4.2	0.250	0.261	78.5	[illegible]
		0.034		112	127.3	90.6	4.0	0.185	0.203	58.5	[illegible]
		0.037		102	118.2	86.2	3.8	0.137	0.147	48	[illegible]
		0.040		92	107.8	78.2	3.5	0.100	0.101	24	0.024
0.01	0.05	0.010	215	81	85.2	48.2	2.0	0.950	0.954	49.5	[illegible]
		0.013		86	90.6	49.1	2.2	0.900	0.920	64.5	[illegible]
		0.016		92	97.2	54.9	2.4	0.828	0.863	101.5	0.102
		0.019		94	102.7	57.9	2.5	0.743	0.789	124.5	0.125
		0.022		97	104.1	60.6	2.7	0.654	0.719	128.5	0.129
		0.025		98	105.0	61.5	2.7	0.563	0.614	137	0.137
		0.028		99	102.8	62.2	2.7	0.467	0.514	125.5	[illegible]
		0.031		91	99.5	62.0	2.7	0.387	0.424	122.5	0.122
		0.034		90	95.9	60.7	2.7	0.303	0.358	102	0.102
		0.037		80	90.7	58.9	2.6	0.264	0.281	83.5	[illegible]
		0.040		75	85.6	58.1	2.6	0.203	0.223	63.5	[illegible]
		0.042		71	81.6	56.9	2.5	0.177	0.187	58.5	[illegible]
		0.044		67	81.1	54.9	2.4	0.154	0.188	48.5	0.047
		0.047		62	75.7	54.6	2.4	0.125	0.142	38	[illegible]
		0.050		59	70.4	50.5	2.2	0.100	0.119	28.5	[illegible]
0.01	0.06	0.010	151	80	81.2	30.9	1.3	0.950	0.959	56	[illegible]
		0.013		83	88.0	35.5	1.6	0.890	0.948	87	[illegible]
		0.016		66	79.6	38.1	1.7	0.865	0.883	111	0.111

Table VIII - DATA OUTPUT PLAN SET II

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.018		70	74.8	40.6	1.8	0.786	0.840	148	0.148
		0.022		72	76.8	42.4	1.8	0.711	0.761	152	0.152
		0.025		78	76.4	42.4	1.8	0.643	0.685	167	0.167
		0.028		80	76.7	43.0	1.8	0.565	0.601	168.5	0.168
		0.031		76	74.6	44.7	2.0	0.488	0.547	167.5	0.168
		0.035		65	73.1	45.2	2.0	0.402	0.429	160.5	0.161
		0.040		60	70.2	44.0	1.8	0.309	0.358	110.5	0.111
		0.043		56	66.1	43.0	1.8	0.264	0.291	102.5	0.104
		0.048		53	63.7	43.2	1.8	0.224	0.247	97.5	0.098
		0.049		51	60.4	41.7	1.8	0.188	0.223	73	0.073
		0.051		48	58.4	40.8	1.8	0.167	0.201	69	0.069
		0.054		46	56.7	39.8	1.7	0.142	0.164	61.5	0.062
		0.057		43	51.7	38.2	1.7	0.119	0.121	46.5	0.047
		0.060		41	48.9	37.2	1.8	0.100	0.091	31	0.031
0.01	0.07	0.010	122	47	49.1	23.5	1.0	0.050	0.069	30.5	0.031
		0.015		52	56.9	30.3	1.3	0.085	0.023	69	0.069
		0.020		56	58.3	34.4	1.5	0.786	0.042	110	0.110
		0.025		58	61.3	35.9	1.6	0.700	0.762	116.5	0.116
		0.030		57	62.2	37.5	1.6	0.587	0.641	120.5	0.121
		0.035		56	60.4	38.1	1.7	0.486	0.541	124.5	0.125
		0.040		49	57.0	37.1	1.6	0.383	0.455	108.5	0.104
		0.045		47	54.2	36.0	1.6	0.300	0.360	91	0.091
		0.050		43	51.5	35.0	1.6	0.250	0.283	79.5	0.071
		0.055		39	47.6	34.2	1.5	0.199	0.226	62	0.062
		0.060		36	44.7	33.1	1.5	0.162	0.187	48	0.048
		0.065		33	41.8	32.3	1.4	0.126	0.134	38	0.038
		0.070		31	38.2	34.3	1.5	0.100	0.109	29	0.029
0.01	0.08	0.010	80	28	40.3	17.9	0.8	0.050	0.076	68	0.068
		0.015		42	42.2	21.4	0.9	0.092	0.023	119	0.119
		0.020		42	47.0	23.9	1.0	0.088	0.064	176.5	0.177
		0.025		44	46.4	24.9	1.1	0.727	0.795	172.5	0.173
		0.030		46	47.0	25.5	1.1	0.612	0.716	166.5	0.168
		0.035		49	47.1	25.9	1.1	0.543	0.617	176.5	0.177
		0.040		44	45.0	26.3	1.2	0.454	0.534	172	0.172
		0.045		39	44.4	26.7	1.2	0.387	0.449	162	0.162
		0.050		37	43.6	27.1	1.2	0.310	0.383	157	0.157
		0.055		35	42.1	26.8	1.1	0.241	0.328	126	0.126
		0.060		32	38.3	25.2	1.1	0.224	0.274	93	0.093
		0.065		30	36.6	25.5	1.1	0.185	0.210	81.5	0.082
		0.070		28	35.6	24.7	1.1	0.161	0.162	78.5	0.079
		0.075		26	32.1	23.8	1.0	0.123	0.130	64	0.064
		0.080		25	30.8	22.0	1.0	0.100	0.124	58	0.058

TableIX - ASN TESTING , PLAN SET II

(h_1-1) ACCEPTANCE RULE

			Plan 02			Computed				
			Mean #			t		Ho: μ1 = μ2		Ho: μ1 = μ2
P1	P2	Pa	ASN(Pa)	Inspected	Difference	Statistic	t(.05)	Ha: μ1 < μ2	t(.01)	Ha: μ1 < μ2
0.01	0.03	0.010	217	216.5	-0.26	-0.09	-1.646	Accept	-2.328	Acc.
		0.012	245	247.5	2.02	0.57	-1.646	Accept	-2.328	Acc.
		0.014	271	271.6	0.77	0.19	-1.646	Accept	-2.328	Acc.
		0.016	295	292.7	-2.27	-0.53	-1.646	Accept	-2.328	Acc.
		0.018	383	297.1	-85.43	-14.76	-1.646	R	-2.328	R
		0.020	298	297.8	-0.84	-0.12	-1.646	Accept	-2.328	Acc.
		0.022	257	291.6	34.75	7.81	-1.646	Accept	-2.328	Acc.
		0.024	250	262.0	12.37	2.99	-1.646	Accept	-2.328	Acc.
		0.026	222	250.2	28.26	7.02	-1.646	Accept	-2.328	Acc.
		0.028	199	225.2	25.75	7.11	-1.646	Accept	-2.328	Acc.
		0.030	181	207.9	26.85	7.80	-1.646	Accept	-2.328	Acc.
0.01	0.04	0.010	121	120.7	0.15	0.10	-1.646	Accept	-2.328	Acc.
		0.013	134	138.0	3.56	1.95	-1.646	Accept	-2.328	Acc.
		0.016	145	155.0	9.81	4.73	-1.646	Accept	-2.328	Acc.
		0.019	162	163.3	1.02	0.46	-1.646	Accept	-2.328	Acc.
		0.022	165	164.9	0.05	0.02	-1.646	Accept	-2.328	Acc.
		0.025	150	161.0	11.02	4.87	-1.646	Accept	-2.328	Acc.
		0.028	138	151.6	13.85	6.33	-1.646	Accept	-2.328	Acc.
		0.031	123	140.6	17.99	8.31	-1.646	Accept	-2.328	Acc.
		0.034	112	127.3	15.22	7.50	-1.646	Accept	-2.328	Acc.
		0.037	102	118.2	16.70	8.86	-1.646	Accept	-2.328	Acc.
		0.040	92	107.6	15.41	8.70	-1.646	Accept	-2.328	Acc.
0.01	0.05	0.010	81	85.2	4.13	4.00	-1.646	Accept	-2.328	Acc.
		0.013	88	90.8	2.59	2.36	-1.646	Accept	-2.328	Acc.
		0.016	92	97.2	4.78	3.89	-1.646	Accept	-2.328	Acc.
		0.019	94	102.7	8.31	6.42	-1.646	Accept	-2.328	Acc.
		0.022	97	104.1	7.46	5.80	-1.646	Accept	-2.328	Acc.
		0.025	98	105.0	7.03	5.11	-1.646	Accept	-2.328	Acc.
		0.028	99	102.8	3.88	2.85	-1.646	Accept	-2.328	Acc.
		0.031	91	99.5	8.35	6.02	-1.646	Accept	-2.328	Acc.
		0.034	90	96.9	6.93	5.11	-1.646	Accept	-2.328	Acc.
		0.037	80	90.7	10.39	7.89	-1.646	Accept	-2.328	Acc.
		0.040	75	85.6	10.63	8.19	-1.646	Accept	-2.328	Acc.
		0.042	71	81.6	10.69	8.40	-1.646	Accept	-2.328	Acc.
		0.044	67	81.1	13.77	11.23	-1.646	Accept	-2.328	Acc.
		0.047	62	75.7	13.28	10.86	-1.646	Accept	-2.328	Acc.
		0.050	58	70.4	12.35	10.03	-1.646	Accept	-2.328	Acc.
0.01	0.06	0.010	60	61.2	0.96	1.40	-1.646	Accept	-2.328	Acc.
		0.013	63	68.0	5.40	6.80	-1.646	Accept	-2.328	Acc.
		0.016	68	70.6	2.77	3.25	-1.646	Accept	-2.328	Acc.

TableIX - ASN TESTING , PLAN SET II

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.019	70	74.8	4.83	5.32	-1.646	Accept	-2.328	Acc.
		0.022	72	75.8	3.80	4.00	-1.646	Accept	-2.328	Acc.
		0.025	76	75.4	-0.62	-0.64	-1.646	Accept	-2.328	Acc.
		0.028	80	75.7	-4.75	-4.84	-1.646	R	-2.328	R
		0.031	76	74.6	-1.39	-1.39	-1.646	Accept	-2.328	Acc.
		0.035	65	73.1	7.80	7.72	-1.646	Accept	-2.328	Acc.
		0.040	60	70.2	10.29	10.47	-1.646	Accept	-2.328	Acc.
		0.043	56	66.1	9.66	9.85	-1.646	Accept	-2.328	Acc.
		0.046	53	63.7	10.42	10.79	-1.646	Accept	-2.328	Acc.
		0.049	51	60.4	9.53	10.21	-1.646	Accept	-2.328	Acc.
		0.051	49	58.4	9.81	10.73	-1.646	Accept	-2.328	Acc.
		0.054	46	55.7	9.94	11.18	-1.646	Accept	-2.328	Acc.
		0.057	43	51.7	8.49	9.93	-1.646	Accept	-2.328	Acc.
		0.060	41	48.0	7.05	8.47	-1.646	Accept	-2.328	Acc.
0.01	0.07	0.010	47	49.1	1.62	3.08	-1.646	Accept	-2.328	Acc.
		0.015	52	55.9	4.14	6.11	-1.646	Accept	-2.328	Acc.
		0.020	55	60.3	5.29	6.88	-1.646	Accept	-2.328	Acc.
		0.025	58	61.3	3.16	3.94	-1.646	Accept	-2.328	Acc.
		0.030	57	62.2	5.40	6.44	-1.646	Accept	-2.328	Acc.
		0.035	55	60.4	5.39	6.33	-1.646	Accept	-2.328	Acc.
		0.040	49	57.8	8.55	10.32	-1.646	Accept	-2.328	Acc.
		0.045	47	54.2	6.87	8.32	-1.646	Accept	-2.328	Acc.
		0.050	43	51.5	8.67	10.89	-1.646	Accept	-2.328	Acc.
		0.055	39	47.6	8.18	10.70	-1.646	Accept	-2.328	Acc.
		0.060	36	44.7	8.72	11.78	-1.646	Accept	-2.328	Acc.
		0.065	33	41.9	8.41	11.64	-1.646	Accept	-2.328	Acc.
		0.070	31	38.3	7.40	9.66	-1.646	Accept	-2.328	Acc.
0.01	0.08	0.010	39	40.3	1.27	3.18	-1.646	Accept	-2.328	Acc.
		0.015	42	43.2	1.38	2.89	-1.646	Accept	-2.328	Acc.
		0.020	42	47.6	5.44	10.18	-1.646	Accept	-2.328	Acc.
		0.025	44	46.4	2.43	4.42	-1.646	Accept	-2.328	Acc.
		0.030	46	47.9	1.90	3.34	-1.646	Accept	-2.328	Acc.
		0.035	49	47.1	-1.72	-2.98	-1.646	R	-2.328	Acc.
		0.040	44	45.6	1.72	2.93	-1.646	Accept	-2.328	Acc.
		0.045	39	44.4	5.69	9.53	-1.646	Accept	-2.328	Acc.
		0.050	37	43.6	6.76	11.15	-1.646	Accept	-2.328	Acc.
		0.055	35	42.1	7.07	12.24	-1.646	Accept	-2.328	Acc.
		0.060	32	38.3	6.65	11.78	-1.646	Accept	-2.328	Acc.
		0.065	30	36.6	6.99	12.25	-1.646	Accept	-2.328	Acc.
		0.070	28	35.5	7.72	13.97	-1.646	Accept	-2.328	Acc.
		0.075	26	32.1	6.02	11.45	-1.646	Accept	-2.328	Acc.
		0.080	25	29.8	5.24	10.84	-1.646	Accept	-2.328	Acc.

Table X - OC CURVE TESTING , PLAN SET II

(h_1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN 02 Accept @ Pa P2	% Late Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.01	0.03	0.010	0.950	0.934	0.005	3.00	1.960	R	2.054	R
		0.012	0.886	0.916	0.007	3.16	1.960	R	2.054	R
		0.014	0.812	0.930	0.009	2.08	1.960	R	2.054	R
		0.016	0.706	0.727	0.010	2.12	1.960	R	2.054	R
		0.018	0.581	0.592	0.011	0.95	1.960	Accept	2.054	Accept
		0.020	0.448	0.485	0.011	3.31	1.960	R	2.054	R
		0.022	0.352	0.335	0.011	-1.68	1.960	Accept	2.054	Accept
		0.024	0.250	0.265	0.010	1.55	1.960	Accept	2.054	Accept
		0.026	0.188	0.191	0.009	0.32	1.960	Accept	2.054	Accept
		0.028	0.139	0.151	0.008	1.40	1.960	Accept	2.054	Accept
		0.030	0.100	0.120	0.007	2.86	1.960	R	2.054	R
0.01	0.04	0.010	0.950	0.958	0.004	4.06	1.960	R	2.054	R
		0.012	0.884	0.901	0.007	2.38	1.960	R	2.054	R
		0.016	0.700	0.800	0.009	1.08	1.960	Accept	2.054	Accept
		0.018	0.683	0.694	0.010	0.87	1.960	Accept	2.054	Accept
		0.022	0.549	0.579	0.011	2.62	1.960	R	2.054	R
		0.025	0.426	0.454	0.011	1.65	1.960	Accept	2.054	Accept
		0.028	0.325	0.359	0.011	3.10	1.960	R	2.054	R
		0.031	0.260	0.281	0.010	1.10	1.960	Accept	2.054	Accept
		0.034	0.185	0.202	0.009	2.04	1.960	R	2.054	Accept
		0.037	0.137	0.147	0.008	1.33	1.960	Accept	2.054	Accept
		0.040	0.100	0.101	0.007	0.07	1.960	Accept	2.054	Accept
0.01	0.05	0.010	0.950	0.954	0.005	0.84	1.960	Accept	2.054	Accept
		0.013	0.800	0.928	0.006	4.40	1.960	R	2.054	R
		0.016	0.626	0.862	0.008	4.32	1.960	R	2.054	R
		0.019	0.743	0.789	0.009	4.89	1.960	R	2.054	R
		0.022	0.654	0.719	0.010	6.18	1.960	R	2.054	R
		0.025	0.563	0.614	0.011	4.81	1.960	R	2.054	R
		0.028	0.487	0.514	0.011	4.17	1.960	R	2.054	R
		0.031	0.387	0.424	0.011	3.31	1.960	R	2.054	R
		0.034	0.303	0.368	0.011	5.10	1.960	R	2.054	R
		0.037	0.284	0.281	0.010	2.84	1.960	R	2.054	R
		0.040	0.203	0.222	0.009	2.10	1.960	R	2.054	R
		0.042	0.177	0.187	0.009	1.11	1.960	Accept	2.054	Accept
		0.044	0.154	0.166	0.008	1.36	1.960	Accept	2.054	Accept
		0.047	0.125	0.142	0.008	2.23	1.960	R	2.054	R
		0.050	0.100	0.118	0.007	2.72	1.960	R	2.054	R
0.01	0.06	0.010	0.950	0.950	0.004	4.31	1.960	R	2.054	R
		0.013	0.800	0.948	0.006	8.21	1.960	R	2.054	R
		0.016	0.656	0.902	0.007	8.16	1.960	R	2.054	R

Table X - OC CURVE TESTING , PLAN SET II

(h_1-1) ACCEPTANCE RULE

		0.010	0.786	0.840	0.009	6.16	1.960	R	2.064	R
		0.022	0.711	0.761	0.010	4.92	1.960	R	2.064	R
		0.025	0.643	0.695	0.011	4.02	1.960	R	2.064	R
		0.028	0.585	0.641	0.011	3.18	1.960	R	2.064	R
		0.031	0.486	0.547	0.011	2.43	1.960	R	2.064	R
		0.035	0.402	0.428	0.011	2.44	1.960	R	2.064	R
		0.040	0.309	0.358	0.011	4.68	1.960	R	2.064	R
		0.043	0.264	0.291	0.010	2.67	1.960	R	2.064	R
		0.048	0.224	0.247	0.009	2.42	1.960	R	2.064	R
		0.049	0.185	0.223	0.009	5.28	1.960	R	2.064	R
		0.051	0.167	0.201	0.009	3.85	1.960	R	2.064	R
		0.054	0.142	0.184	0.008	2.63	1.960	R	2.064	R
		0.057	0.118	0.121	0.007	9.14	1.960	Accept	2.064	Accept
		0.060	0.100	0.091	0.007	-1.37	1.960	Accept	2.064	Accept
0.01	0.07	0.010	0.850	0.868	0.004	4.31	1.960	R	2.064	R
		0.015	0.888	0.923	0.007	5.63	1.960	R	2.064	R
		0.020	0.786	0.842	0.009	6.46	1.960	R	2.064	R
		0.025	0.700	0.752	0.010	5.19	1.960	R	2.064	R
		0.030	0.587	0.641	0.011	4.08	1.960	R	2.064	R
		0.035	0.486	0.541	0.011	4.04	1.960	R	2.064	R
		0.040	0.393	0.455	0.011	5.60	1.960	R	2.064	R
		0.045	0.309	0.368	0.011	5.65	1.960	R	2.064	R
		0.050	0.250	0.302	0.010	3.21	1.960	R	2.064	R
		0.055	0.199	0.226	0.009	2.91	1.960	R	2.064	R
		0.060	0.162	0.167	0.008	0.61	1.960	Accept	2.064	Accept
		0.065	0.126	0.134	0.008	1.02	1.960	Accept	2.064	Accept
		0.070	0.100	0.109	0.007	1.32	1.960	Accept	2.064	Accept
0.01	0.08	0.010	0.850	0.876	0.004	6.02	1.960	R	2.064	R
		0.015	0.892	0.923	0.006	4.76	1.960	R	2.064	R
		0.020	0.808	0.864	0.008	6.76	1.960	R	2.064	R
		0.025	0.727	0.795	0.010	7.06	1.960	R	2.064	R
		0.030	0.613	0.716	0.011	8.74	1.960	R	2.064	R
		0.035	0.543	0.617	0.011	6.85	1.960	R	2.064	R
		0.040	0.484	0.534	0.011	7.13	1.960	R	2.064	R
		0.045	0.387	0.468	0.011	7.81	1.960	R	2.064	R
		0.050	0.310	0.393	0.011	6.82	1.960	R	2.064	R
		0.055	0.241	0.329	0.010	5.89	1.960	R	2.064	R
		0.060	0.224	0.274	0.010	5.17	1.960	R	2.064	R
		0.065	0.185	0.218	0.009	3.82	1.960	R	2.064	R
		0.070	0.151	0.183	0.008	1.44	1.960	Accept	2.064	Accept
		0.075	0.123	0.139	0.007	0.91	1.960	Accept	2.064	Accept
		0.080	0.100	0.124	0.007	3.48	1.960	R	2.064	R

Table XI - DATA OUTPUT PLAN SET III

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	MCO	ASN(Pa)	Plan 93 Mean # Inspected	Std Dev # Insp.	Mean CI (+ -)	Accept @ Pa	% Lots Accepted	Ave # Times Rave Rule	Pr(stop rule)
0.015	0.03	0.015	1532	423	434.8	301.4	13.2	0.950	0.947	18.5	0.017
		0.018		467	458.0	324.3	14.2	0.926	0.912	28.0	0.026
		0.018		542	544.9	380.5	16.7	0.935	0.906	48.0	0.048
		0.020		565	587.3	400.6	17.6	0.889	0.888	54.0	0.054
		0.022		612	603.7	423.3	18.6	0.520	0.500	76.5	0.077
		0.024		630	574.3	408.6	17.9	0.378	0.397	83.0	0.083
		0.026		630	542.1	385.9	16.9	0.245	0.241	66.5	0.047
		0.028		452	489.3	350.1	15.3	0.167	0.184	25.5	0.026
		0.030		403	459.5	328.7	14.0	0.100	0.120	24.0	0.024
0.015	0.04	0.015	686	188	194.0	124.0	5.5	0.950	0.950	18.5	0.018
		0.017		210	213.8	138.3	6.1	0.912	0.917	31.0	0.031
		0.019		230	226.7	153.4	6.7	0.856	0.865	44.0	0.044
		0.022		264	269.2	170.3	7.5	0.728	0.750	75.0	0.075
		0.025		288	277.6	178.9	7.8	0.594	0.598	96.5	0.097
		0.028		260	280.1	178.6	7.8	0.442	0.467	74.5	0.075
		0.031		226	263.7	174.1	7.6	0.318	0.303	60.0	0.060
		0.034		207	223.2	167.5	6.9	0.218	0.220	45.0	0.045
		0.037		186	204.7	148.9	6.5	0.147	0.153	24.0	0.024
		0.040		184	188.0	137.5	6.0	0.100	0.114	18.5	0.020
0.015	0.05	0.015	371	114	117.2	70.3	3.1	0.950	0.952	18.5	0.019
		0.017		123	128.7	80.9	3.5	0.922	0.927	28.0	0.028
		0.019		132	135.8	86.5	3.8	0.884	0.891	46.5	0.047
		0.022		142	147.4	85.3	4.2	0.809	0.832	85.5	0.086
		0.025		148	152.4	87.2	4.3	0.711	0.747	85.0	0.085
		0.028		153	158.2	103.5	4.5	0.612	0.627	86.0	0.086
		0.031		146	167.6	103.4	4.5	0.489	0.520	83.5	0.084
		0.034		135	148.8	102.3	4.5	0.405	0.399	76.0	0.076
		0.037		132	144.2	98.1	4.3	0.314	0.325	67.5	0.068
		0.040		125	136.7	95.7	4.2	0.254	0.260	60.0	0.060
		0.042		118	130.7	91.7	4.0	0.196	0.213	43.5	0.044
		0.044		118	124.8	90.2	4.0	0.171	0.184	31.5	0.032
		0.047		101	118.9	85.0	3.8	0.121	0.144	25.5	0.026
		0.050		92	106.4	77.8	3.4	0.100	0.105	18.0	0.018
0.015	0.06	0.015	232	78	83.0	48.7	2.0	0.950	0.951	31.5	0.032
		0.017		84	87.8	51.7	2.3	0.926	0.942	46.5	0.047
		0.019		89	90.5	54.4	2.4	0.900	0.919	67.0	0.067
		0.022		84	101.5	60.4	2.8	0.838	0.864	83.5	0.084
		0.025		101	103.2	61.9	2.7	0.777	0.794	97.5	0.098
		0.028		103	105.5	63.6	2.8	0.695	0.724	103.5	0.104
		0.031		111	107.8	65.9	2.8	0.612	0.626	113.5	0.114

Table XI - DATA OUTPUT PLAN SET III

(h_1-1) ACCEPTANCE RULE

		0.024		100	108.4	67.4		3.0	0.524	0.521	122.0	0.122
		0.027		94	105.0	66.5		2.8	0.448	0.482	110.5	0.111
		0.040		91	104.2	66.2		2.8	0.278	0.280	110.0	0.110
		0.043		86	101.6	66.7		2.8	0.314	0.245	106.0	0.106
		0.046		82	95.8	64.4		2.8	0.258	0.284	81.0	0.081
		0.049		77	88.7	63.2		2.8	0.211	0.236	68.5	0.068
		0.051		74	83.8	60.1		2.6	0.185	0.189	51.0	0.051
		0.054		69	78.6	57.7		2.5	0.151	0.174	40.5	0.041
		0.057		65	76.1	55.3		2.4	0.123	0.144	32.0	0.032
		0.060		61	67.0	53.0		2.4	0.100	0.095	27.0	0.027
0.015	0.07	0.015	178	60	63.4	52.6		1.5	0.050	0.055	21.5	0.022
		0.017		62	66.0	57.1		1.6	0.026	0.047	25.0	0.025
		0.019		65	69.0	57.1		1.6	0.005	0.024	40.0	0.040
		0.022		70	72.0	42.3		1.9	0.863	0.892	66.0	0.066
		0.025		73	76.4	44.1		1.9	0.808	0.836	83.0	0.083
		0.028		74	76.2	47.0		2.1	0.743	0.765	102.5	0.103
		0.031		75	82.0	49.0		2.1	0.678	0.721	116.5	0.117
		0.034		78	82.2	50.5		2.2	0.609	0.651	115.0	0.115
		0.037		79	81.9	50.2		2.2	0.537	0.587	110.0	0.110
		0.040		76	78.9	50.9		2.2	0.473	0.518	103.0	0.103
		0.043		70	80.1	50.8		2.2	0.411	0.462	100.0	0.100
		0.046		68	76.9	50.1		2.2	0.352	0.360	83.5	0.084
		0.049		63	73.7	48.9		2.1	0.309	0.331	81.0	0.081
		0.051		62	70.6	48.6		2.1	0.272	0.287	73.0	0.073
		0.054		59	68.3	47.6		2.1	0.236	0.247	63.0	0.063
		0.057		58	63.5	45.5		2.0	0.199	0.223	47.0	0.047
		0.060		53	61.3	44.6		2.0	0.171	0.171	38.0	0.038
		0.063		50	60.0	43.0		1.9	0.145	0.149	31.0	0.031
		0.066		48	57.2	42.5		1.9	0.128	0.123	21.5	0.022
		0.068		46	53.8	39.5		1.7	0.111	0.117	18.5	0.018
		0.070		44	53.5	39.5		1.7	0.100	0.111	21.0	0.021

Table XII - ASN TESTING , PLAN SET III

(h_1-1) ACCEPTANCE RULE

			Plan 03	Computed						
			Mean #		t		Ho: μ1 = μ2		Ho: μ1 = μ2
P1	P2	Pa	ASN(Pa)	Inspected	Difference	Statistic	t(.05)	Ha: μ1 < μ2	t(.01)	Ha: μ1 < μ2
0.015	0.03	0.015	423	434.8	11.82	1.72	-1.646	Accept	-2.328	Accept
		0.016	467	458.0	-9.04	-1.25	-1.646	Accept	-2.328	Accept
		0.018	542	544.9	3.04	0.36	-1.646	Accept	-2.328	Accept
		0.020	565	587.3	22.31	2.49	-1.646	Accept	-2.328	Accept
		0.022	612	603.7	-8.28	-0.87	-1.646	Accept	-2.328	Accept
		0.024	580	574.3	-5.39	-0.59	-1.646	Accept	-2.328	Accept
		0.026	530	542.1	11.89	1.35	-1.646	Accept	-2.328	Accept
		0.028	453	489.3	36.75	4.70	-1.646	Accept	-2.328	Accept
		0.030	403	459.6	56.96	7.52	-1.646	Accept	-2.328	Accept
0.015	0.04	0.015	188	194.0	5.49	1.97	-1.646	Accept	-2.328	Accept
		0.017	210	213.6	4.12	1.33	-1.646	Accept	-2.328	Accept
		0.019	230	226.7	-3.58	-1.04	-1.646	Accept	-2.328	Accept
		0.022	254	259.2	5.56	1.46	-1.646	Accept	-2.328	Accept
		0.025	298	277.6	-20.27	-5.07	-1.646	R	-2.328	R
		0.028	250	260.1	9.76	2.44	-1.646	Accept	-2.328	Accept
		0.031	228	253.7	26.04	6.69	-1.646	Accept	-2.328	Accept
		0.034	207	223.2	15.76	4.48	-1.646	Accept	-2.328	Accept
		0.037	186	204.7	19.06	5.73	-1.646	Accept	-2.328	Accept
		0.040	164	186.0	22.29	7.25	-1.646	Accept	-2.328	Accept
0.015	0.05	0.015	114	117.2	3.24	2.06	-1.646	Accept	-2.328	Accept
		0.017	123	128.7	5.52	3.05	-1.646	Accept	-2.328	Accept
		0.019	132	135.8	4.10	2.12	-1.646	Accept	-2.328	Accept
		0.022	142	147.4	5.01	2.35	-1.646	Accept	-2.328	Accept
		0.025	149	152.4	3.69	1.70	-1.646	Accept	-2.328	Accept
		0.028	153	156.2	3.22	1.39	-1.646	Accept	-2.328	Accept
		0.031	145	157.6	12.93	5.59	-1.646	Accept	-2.328	Accept
		0.034	135	148.8	13.47	5.89	-1.646	Accept	-2.328	Accept
		0.037	132	144.2	12.25	5.68	-1.646	Accept	-2.328	Accept
		0.040	125	136.7	11.73	5.48	-1.646	Accept	-2.328	Accept
		0.042	119	130.7	11.74	5.73	-1.646	Accept	-2.328	Accept
		0.044	110	124.9	14.86	7.37	-1.646	Accept	-2.328	Accept
		0.047	101	116.8	16.11	8.40	-1.646	Accept	-2.328	Accept
		0.050	92	106.4	13.92	8.00	-1.646	Accept	-2.328	Accept
0.015	0.06	0.015	79	83.0	3.64	3.38	-1.646	Accept	-2.328	Accept
		0.017	84	87.8	3.78	3.25	-1.646	Accept	-2.328	Accept
		0.019	89	90.5	1.09	0.89	-1.646	Accept	-2.328	Accept
		0.022	94	101.6	7.65	5.68	-1.646	Accept	-2.328	Accept
		0.025	101	103.2	1.80	1.30	-1.646	Accept	-2.328	Accept
		0.028	103	105.5	2.30	1.82	-1.646	Accept	-2.328	Accept
		0.031	111	107.3	-3.33	-2.26	-1.646	R	-2.328	R

Table XII - ASN TESTING , PLAN SET III

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.034	100	106.4	6.01	3.89	-1.645	Accept	-2.328	Accept
		0.037	94	105.0	10.90	7.33	-1.645	Accept	-2.328	Accept
		0.040	91	104.2	12.83	8.68	-1.645	Accept	-2.328	Accept
		0.043	86	101.6	15.22	10.20	-1.645	Accept	-2.328	Accept
		0.046	82	95.8	13.98	9.71	-1.645	Accept	-2.328	Accept
		0.049	77	93.3	15.90	11.23	-1.645	Accept	-2.328	Accept
		0.051	74	85.5	11.23	8.35	-1.645	Accept	-2.328	Accept
		0.054	69	81.7	12.24	9.48	-1.645	Accept	-2.328	Accept
		0.057	65	77.4	12.30	9.84	-1.645	Accept	-2.328	Accept
		0.060	61	72.8	11.72	9.73	-1.645	Accept	-2.328	Accept
0.015	0.07	0.015	60	62.3	2.26	3.01	-1.645	Accept	-2.328	Accept
		0.017	62	65.6	3.37	4.06	-1.645	Accept	-2.328	Accept
		0.019	65	69.0	3.49	4.20	-1.645	Accept	-2.328	Accept
		0.022	70	72.9	3.07	3.25	-1.645	Accept	-2.328	Accept
		0.025	73	76.4	3.91	3.86	-1.645	Accept	-2.328	Accept
		0.028	74	78.2	4.17	3.97	-1.645	Accept	-2.328	Accept
		0.031	75	82.8	7.33	6.89	-1.645	Accept	-2.328	Accept
		0.034	78	82.2	4.65	4.11	-1.645	Accept	-2.328	Accept
		0.037	79	81.9	2.78	2.48	-1.645	Accept	-2.328	Accept
		0.040	75	78.9	3.87	3.40	-1.645	Accept	-2.328	Accept
		0.043	70	80.1	10.55	9.29	-1.645	Accept	-2.328	Accept
		0.046	68	76.0	8.23	7.35	-1.645	Accept	-2.328	Accept
		0.049	63	73.7	10.69	9.77	-1.645	Accept	-2.328	Accept
		0.051	62	70.6	8.31	7.64	-1.645	Accept	-2.328	Accept
		0.054	59	68.3	9.70	9.11	-1.645	Accept	-2.328	Accept
		0.057	56	63.5	7.53	7.40	-1.645	Accept	-2.328	Accept
		0.060	53	61.3	8.36	8.39	-1.645	Accept	-2.328	Accept
		0.063	50	60.0	9.84	10.24	-1.645	Accept	-2.328	Accept
		0.066	46	57.2	11.30	11.80	-1.645	Accept	-2.328	Accept
		0.068	46	53.8	8.04	9.10	-1.645	Accept	-2.328	Accept
		0.070	44	53.5	9.36	10.59	-1.645	Accept	-2.328	Accept

Table XIII - OC CURVE TESTING , PLAN SET III

(h1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN 03 Accept @ Pa P2	% Lots Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.015	0.03	0.015	0.950	0.947	0.005	-0.61	1.960	Accept	2.054	Accept
		0.016	0.926	0.912	0.006	-2.30	1.960	R	2.054	R
		0.018	0.826	0.806	0.008	-2.46	1.960	R	2.054	R
		0.020	0.688	0.688	0.010	-0.15	1.960	Accept	2.054	Accept
		0.022	0.530	0.509	0.011	-1.86	1.960	Accept	2.054	Accept
		0.024	0.375	0.397	0.011	1.89	1.960	R	2.054	Accept
		0.026	0.248	0.241	0.010	-0.45	1.960	Accept	2.054	Accept
		0.028	0.167	0.184	0.009	1.82	1.960	Accept	2.054	Accept
		0.030	0.100	0.120	0.007	2.86	1.960	R	2.054	R
0.015	0.04	0.015	0.950	0.950	0.005	-0.10	1.960	Accept	2.054	Accept
		0.017	0.912	0.917	0.006	0.86	1.960	Accept	2.054	Accept
		0.019	0.856	0.865	0.008	1.12	1.960	Accept	2.054	Accept
		0.022	0.738	0.750	0.010	1.22	1.960	Accept	2.054	Accept
		0.025	0.594	0.608	0.011	1.32	1.960	Accept	2.054	Accept
		0.028	0.442	0.467	0.011	2.21	1.960	R	2.054	R
		0.031	0.318	0.303	0.010	-1.62	1.960	Accept	2.054	Accept
		0.034	0.218	0.229	0.009	1.03	1.960	Accept	2.054	Accept
		0.037	0.147	0.163	0.008	0.72	1.960	Accept	2.054	Accept
		0.040	0.100	0.114	0.007	1.96	1.960	Accept	2.054	Accept
0.015	0.05	0.015	0.950	0.952	0.005	0.81	1.960	Accept	2.054	Accept
		0.017	0.822	0.827	0.006	0.83	1.960	Accept	2.054	Accept
		0.019	0.684	0.691	0.007	0.92	1.960	Accept	2.054	Accept
		0.022	0.808	0.832	0.009	2.85	1.960	R	2.054	R
		0.025	0.711	0.747	0.010	3.66	1.960	R	2.054	R
		0.028	0.612	0.627	0.011	1.37	1.960	Accept	2.054	Accept
		0.031	0.488	0.520	0.011	1.92	1.960	Accept	2.054	Accept
		0.034	0.405	0.389	0.011	-0.85	1.960	Accept	2.054	Accept
		0.037	0.314	0.326	0.010	1.16	1.960	Accept	2.054	Accept
		0.040	0.254	0.250	0.010	-0.45	1.960	Accept	2.054	Accept
		0.042	0.196	0.212	0.009	1.87	1.960	Accept	2.054	Accept
		0.044	0.171	0.184	0.009	1.52	1.960	Accept	2.054	Accept
		0.047	0.121	0.144	0.008	1.81	1.960	Accept	2.054	Accept
		0.050	0.100	0.106	0.007	0.81	1.960	Accept	2.054	Accept
0.015	0.06	0.015	0.950	0.891	0.005	2.27	1.960	R	2.054	R
		0.017	0.828	0.842	0.006	2.88	1.960	R	2.054	R
		0.019	0.900	0.819	0.008	2.89	1.960	R	2.054	R
		0.022	0.838	0.864	0.008	3.19	1.960	R	2.054	R
		0.025	0.777	0.794	0.009	1.83	1.960	Accept	2.054	Accept
		0.028	0.695	0.724	0.010	2.89	1.960	R	2.054	R
		0.031	0.612	0.626	0.011	1.27	1.960	Accept	2.054	Accept

Table XIII - OC CURVE TESTING , PLAN SET III

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.034	0.524	0.521	0.011	-0.27	1.960	Accept	2.054	Accept
		0.037	0.448	0.462	0.011	1.25	1.960	Accept	2.054	Accept
		0.040	0.375	0.390	0.011	1.80	1.960	Accept	2.054	Accept
		0.043	0.314	0.345	0.011	2.80	1.960	R	2.054	R
		0.046	0.258	0.294	0.010	3.45	1.960	R	2.054	R
		0.049	0.211	0.238	0.009	3.61	1.960	R	2.054	R
		0.051	0.185	0.190	0.009	0.67	1.960	Accept	2.054	Accept
		0.054	0.151	0.174	0.008	2.76	1.960	R	2.054	R
		0.057	0.123	0.144	0.008	2.66	1.960	R	2.054	R
		0.060	0.100	0.095	0.007	-0.75	1.960	Accept	2.054	Accept
0.015	0.07	0.015	0.850	0.855	0.005	3.21	1.960	R	2.054	R
		0.017	0.826	0.847	0.005	3.75	1.960	R	2.054	R
		0.019	0.805	0.824	0.006	3.08	1.960	R	2.054	R
		0.022	0.863	0.882	0.007	3.89	1.960	R	2.054	R
		0.025	0.808	0.836	0.009	3.33	1.960	R	2.054	R
		0.028	0.743	0.765	0.010	2.27	1.960	R	2.054	R
		0.031	0.678	0.721	0.010	4.17	1.960	R	2.054	R
		0.034	0.609	0.651	0.011	3.84	1.960	R	2.054	R
		0.037	0.537	0.587	0.011	4.48	1.960	R	2.054	R
		0.040	0.473	0.518	0.011	3.96	1.960	R	2.054	R
		0.043	0.411	0.452	0.011	3.69	1.960	R	2.054	R
		0.046	0.352	0.390	0.011	0.66	1.960	Accept	2.054	Accept
		0.049	0.309	0.331	0.010	2.14	1.960	R	2.054	R
		0.051	0.273	0.287	0.010	1.38	1.960	Accept	2.054	Accept
		0.054	0.238	0.247	0.010	1.06	1.960	Accept	2.054	Accept
		0.057	0.189	0.223	0.009	2.53	1.960	R	2.054	R
		0.060	0.171	0.171	0.008	-0.01	1.960	Accept	2.054	Accept
		0.063	0.145	0.148	0.008	0.41	1.960	Accept	2.054	Accept
		0.066	0.138	0.123	0.008	-2.06	1.960	R	2.054	R
		0.068	0.111	0.117	0.007	0.76	1.960	Accept	2.054	Accept
		0.070	0.100	0.111	0.007	1.63	1.960	Accept	2.054	Accept

Table XIV - DATA OUTPUT PLAN SET IV

(h_1-1) ACCEPTANCE RULE

P1	P2	Pa	MCO	ASN(Pa)	Plan 94 Mean # Inspected	Std Dev # Insp.	Mean CI (+ -)	Accept @ Pa	% Lots Accepted	Ave # Times Rule	P(stop rule)
0.02	0.03	0.020	4182	1028	1036.6	816.1	25.8	0.950	0.934	14.5	0.015
		0.021		1162	1099.8	847.0	27.1	0.907	0.898	18.0	0.019
		0.022		1218	1208.8	825.5	40.6	0.846	0.830	20.5	0.021
		0.023		1484	1377.2	1029.1	45.1	0.782	0.729	28.0	0.030
		0.024		1502	1423.2	1036.8	46.4	0.654	0.628	42.5	0.043
		0.026		1481	1418.2	1043.5	45.7	0.405	0.403	27.5	0.026
		0.027		1428	1372.4	1015.3	44.5	0.203	0.204	21.5	0.022
		0.028		1318	1303.8	966.1	42.3	0.207	0.224	20.0	0.020
		0.029		1208	1193.8	899.1	38.4	0.128	0.182	17.5	0.018
		0.030		1072	1161.6	848.3	37.2	0.100	0.128	15.0	0.015
0.02	0.04	0.020	1148	216	213.0	209.8	8.2	0.950	0.947	8.5	0.009
		0.023		287	285.4	263.4	11.5	0.878	0.874	21.5	0.022
		0.027		463	423.3	281.5	12.8	0.683	0.702	64.5	0.066
		0.031		422	405.5	320.1	14.0	0.436	0.454	71.0	0.071
		0.034		401	432.5	287.8	13.1	0.278	0.324	49.5	0.050
		0.037		351	378.5	271.2	11.9	0.167	0.171	31.5	0.032
		0.040		300	325.0	240.2	10.5	0.100	0.108	15.0	0.015
0.02	0.05	0.020	660	105	109.2	111.2	4.9	0.950	0.948	10.0	0.010
		0.025		202	206.8	127.1	6.9	0.853	0.851	45.5	0.046
		0.030		234	224.7	149.0	6.5	0.683	0.674	75.0	0.075
		0.035		238	236.6	167.1	6.8	0.467	0.481	80.5	0.081
		0.040		204	218.3	147.1	6.4	0.293	0.324	58.0	0.058
		0.045		172	182.1	127.1	5.9	0.177	0.178	38.5	0.040
		0.050		146	168.6	121.0	5.3	0.100	0.112	16.0	0.016
0.02	0.06	0.020	356	106	109.5	67.9	3.0	0.950	0.952	10.5	0.020
		0.026		124	120.4	84.1	3.7	0.878	0.893	47.0	0.047
		0.030		138	139.6	93.1	4.1	0.782	0.765	68.5	0.069
		0.035		146	149.7	97.8	4.3	0.612	0.615	80.0	0.080
		0.040		141	147.7	97.3	4.3	0.464	0.481	69.5	0.070
		0.045		130	142.1	99.1	4.3	0.318	0.318	79.0	0.079
		0.050		114	124.0	86.9	3.8	0.224	0.218	38.0	0.038
		0.055		101	108.4	78.6	3.4	0.151	0.142	22.0	0.022
		0.060		89	101.7	76.8	3.4	0.100	0.102	16.5	0.017
0.02	0.07	0.020	243	74	77.1	46.8	2.1	0.950	0.957	21.0	0.021
		0.028		89	92.8	59.0	2.6	0.878	0.889	63.5	0.064
		0.032		98	100.9	64.8	2.8	0.782	0.824	85.5	0.086
		0.038		105	104.8	68.2	3.0	0.618	0.656	100.0	0.100
		0.044		97	104.8	67.2	2.9	0.467	0.504	85.5	0.086
		0.050		89	100.7	67.6	3.0	0.341	0.365	80.0	0.080
		0.055		83	98.3	61.9	2.7	0.280	0.282	66.5	0.068

Table XIV - DATA OUTPUT PLAN SET IV

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.060		75	85.7	40.7	2.7	0.185	0.205	41.5	0.042
		0.065		68	77.2	37.5	2.5	0.137	0.140	28.5	0.029
		0.070		61	69.0	31.3	2.2	0.100	0.099	14.5	0.015
0.02	0.08	0.020	174	59	61.3	35.7	1.6	0.060	0.059	32.5	0.033
		0.025		55	58.2	40.4	1.8	0.092	0.089	50.5	0.051
		0.030		71	72.8	44.9	2.0	0.831	0.852	85.0	0.086
		0.035		73	76.7	47.9	2.1	0.738	0.785	112.0	0.112
		0.040		80	79.8	48.9	2.1	0.642	0.685	116.5	0.117
		0.045		76	78.8	48.3	2.1	0.530	0.561	106.0	0.106
		0.050		71	78.8	50.8	2.2	0.436	0.476	122.0	0.122
		0.055		67	75.0	48.8	2.1	0.347	0.390	100.5	0.101
		0.060		63	70.5	46.5	2.0	0.272	0.282	71.0	0.071
		0.065		58	66.4	46.2	2.0	0.215	0.217	58.0	0.058
		0.070		54	60.8	42.1	1.8	0.164	0.162	37.5	0.038
		0.075		49	59.4	42.2	1.8	0.131	0.125	32.0	0.032
		0.080		46	52.7	38.6	1.7	0.100	0.102	23.5	0.024
0.02	0.09	0.020	137	47	48.8	26.4	1.2	0.050	0.063	27.5	0.028
		0.026		53	54.9	31.8	1.4	0.087	0.011	58.0	0.060
		0.032		58	59.6	34.5	1.5	0.816	0.856	86.0	0.086
		0.038		60	63.6	37.3	1.6	0.725	0.767	114.5	0.115
		0.044		62	63.8	39.5	1.7	0.618	0.661	127.6	0.128
		0.050		58	64.8	39.4	1.7	0.505	0.559	121.5	0.122
		0.056		55	61.7	39.0	1.7	0.411	0.459	104.0	0.104
		0.062		52	59.7	38.2	1.7	0.325	0.354	91.0	0.091
		0.068		48	55.7	37.5	1.6	0.254	0.277	73.5	0.074
		0.074		44	52.2	35.5	1.6	0.188	0.196	54.0	0.054
		0.080		41	47.4	33.7	1.5	0.134	0.171	44.0	0.044
		0.085		38	44.7	32.4	1.4	0.123	0.124	29.0	0.029
		0.090		35	42.1	29.7	1.3	0.100	0.102	20.5	0.021
0.02	0.1	0.020	107	38	41.6	21.8	1.0	0.050	0.065	29.5	0.040
		0.026		43	46.0	24.8	1.1	0.092	0.040	58.0	0.058
		0.032		46	47.8	27.2	1.2	0.835	0.871	87.0	0.087
		0.038		48	50.7	29.1	1.3	0.783	0.787	121.5	0.122
		0.044		50	51.9	30.0	1.3	0.640	0.710	133.5	0.134
		0.050		54	52.8	31.3	1.4	0.587	0.605	151.0	0.151
		0.056		48	51.1	31.1	1.4	0.480	0.502	138.5	0.139
		0.062		44	50.7	31.1	1.4	0.383	0.437	126.5	0.126
		0.068		42	47.4	30.7	1.3	0.319	0.354	104.5	0.105
		0.074		38	44.7	34.5	1.5	0.259	0.268	74.5	0.075
		0.080		36	42.0	29.0	1.3	0.211	0.222	78.0	0.078
		0.085		34	40.7	27.8	1.2	0.174	0.189	52.5	0.053
		0.090		32	39.0	27.7	1.2	0.148	0.165	53.0	0.053
		0.095		30	36.5	25.5	1.1	0.121	0.132	33.0	0.033
		0.100		28	33.8	24.6	1.1	0.100	0.117	28.5	0.027

Table XV - ASN TESTING , PLAN SET IV

(h_1-1) ACCEPTANCE RULE

			Plan 04			Computed				
				Mean #		t		Ho: μ1 = μ2		Ho: μ1 = μ2
P1	P2	Pa	ASN(Pa)	Inspected	Difference	Statistic	t(.05)	Ha: μ1 < μ2	t(.01)	Ha: μ1 < μ2
0.02	0.03	0.020	1028	1036.6	8.95	0.49	-1.646	Accept	-2.328	Accept
		0.021	1163	1099.6	-63.01	-3.33	-1.646	R	-2.328	R
		0.022	1316	1209.8	-106.74	-5.16	-1.646	R	-2.328	R
		0.023	1484	1377.2	-106.82	-4.64	-1.646	R	-2.328	R
		0.024	1502	1423.2	-78.84	-3.40	-1.646	R	-2.328	R
		0.026	1461	1419.3	-41.75	-1.78	-1.646	R	-2.328	Accept
		0.027	1428	1372.4	-55.68	-2.45	-1.646	R	-2.328	R
		0.028	1319	1303.8	-15.01	-0.69	-1.646	Accept	-2.328	Accept
		0.029	1208	1193.8	-14.06	-0.70	-1.646	Accept	-2.328	Accept
		0.030	1073	1151.5	78.58	4.14	-1.646	Accept	-2.328	Accept
0.02	0.04	0.020	315	313.0	-1.78	-0.38	-1.646	Accept	-2.328	Accept
		0.023	387	385.4	-1.78	-0.30	-1.646	Accept	-2.328	Accept
		0.027	463	423.3	-39.35	-6.04	-1.646	R	-2.328	R
		0.031	432	465.5	33.13	4.63	-1.646	Accept	-2.328	Accept
		0.034	401	432.5	31.75	4.77	-1.646	Accept	-2.328	Accept
		0.037	351	378.5	27.23	4.49	-1.646	Accept	-2.328	Accept
		0.040	300	325.0	24.87	4.63	-1.646	Accept	-2.328	Accept
0.02	0.05	0.020	165	169.3	4.57	1.84	-1.646	Accept	-2.328	Accept
		0.025	202	206.8	4.48	1.46	-1.646	Accept	-2.328	Accept
		0.030	234	224.7	-9.18	-2.75	-1.646	R	-2.328	R
		0.035	238	235.6	-2.08	-0.69	-1.646	Accept	-2.328	Accept
		0.040	204	218.3	14.50	4.41	-1.646	Accept	-2.328	Accept
		0.045	172	192.1	20.14	6.57	-1.646	Accept	-2.328	Accept
		0.050	146	168.6	22.15	8.18	-1.646	Accept	-2.328	Accept
0.02	0.06	0.020	105	109.5	3.35	2.20	-1.646	Accept	-2.328	Accept
		0.025	124	129.4	5.48	2.91	-1.646	Accept	-2.328	Accept
		0.030	138	139.6	1.17	0.56	-1.646	Accept	-2.328	Accept
		0.035	146	149.7	3.68	1.69	-1.646	Accept	-2.328	Accept
		0.040	141	147.7	6.26	2.88	-1.646	Accept	-2.328	Accept
		0.045	130	142.1	11.98	5.41	-1.646	Accept	-2.328	Accept
		0.050	114	124.0	9.93	5.11	-1.646	Accept	-2.328	Accept
		0.055	101	109.4	8.51	4.85	-1.646	Accept	-2.328	Accept
		0.060	89	101.7	12.35	7.18	-1.646	Accept	-2.328	Accept
0.02	0.07	0.020	76	77.1	0.82	0.60	-1.646	Accept	-2.328	Accept
		0.026	89	92.8	4.08	3.08	-1.646	Accept	-2.328	Accept
		0.032	98	100.9	3.26	2.25	-1.646	Accept	-2.328	Accept
		0.038	105	104.8	-0.06	-0.04	-1.646	Accept	-2.328	Accept
		0.044	97	104.8	7.85	5.03	-1.646	Accept	-2.328	Accept
		0.050	89	100.7	12.05	7.97	-1.646	Accept	-2.328	Accept
		0.055	83	88.3	5.13	3.71	-1.646	Accept	-2.328	Accept

Table XV- ASN TESTING , PLAN SET IV

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.060	75	85.7	10.33	7.61	-1.646	Accept	-2.328	Accept
		0.065	68	77.2	9.37	7.28	-1.646	Accept	-2.328	Accept
		0.070	61	69.0	7.54	6.58	-1.646	Accept	-2.328	Accept
0.02	0.08	0.020	59	61.3	2.45	3.07	-1.646	Accept	-2.328	Accept
		0.025	65	68.2	2.79	3.09	-1.646	Accept	-2.328	Accept
		0.030	71	73.8	3.06	3.05	-1.646	Accept	-2.328	Accept
		0.035	73	78.7	5.73	5.35	-1.646	Accept	-2.328	Accept
		0.040	80	79.8	-0.16	-0.15	-1.646	Accept	-2.328	Accept
		0.045	75	78.8	3.78	3.51	-1.646	Accept	-2.328	Accept
		0.050	71	79.6	9.12	8.03	-1.646	Accept	-2.328	Accept
		0.055	67	75.0	7.50	6.88	-1.646	Accept	-2.328	Accept
		0.060	63	70.5	7.54	7.25	-1.646	Accept	-2.328	Accept
		0.065	58	66.4	8.44	8.17	-1.646	Accept	-2.328	Accept
		0.070	54	60.8	6.80	7.22	-1.646	Accept	-2.328	Accept
		0.075	49	59.4	10.17	10.78	-1.646	Accept	-2.328	Accept
		0.080	46	52.7	7.18	8.32	-1.646	Accept	-2.328	Accept
0.02	0.09	0.020	47	48.9	1.57	2.66	-1.646	Accept	-2.328	Accept
		0.026	53	54.9	2.30	3.24	-1.646	Accept	-2.328	Accept
		0.032	56	59.6	3.92	5.08	-1.646	Accept	-2.328	Accept
		0.038	60	63.6	4.03	4.83	-1.646	Accept	-2.328	Accept
		0.044	62	63.8	1.50	1.70	-1.646	Accept	-2.328	Accept
		0.050	58	64.8	6.83	7.75	-1.646	Accept	-2.328	Accept
		0.056	55	61.7	6.77	7.77	-1.646	Accept	-2.328	Accept
		0.062	52	58.7	6.76	7.93	-1.646	Accept	-2.328	Accept
		0.068	48	55.7	7.52	8.97	-1.646	Accept	-2.328	Accept
		0.074	44	52.2	7.95	10.03	-1.646	Accept	-2.328	Accept
		0.080	41	47.4	6.72	8.92	-1.646	Accept	-2.328	Accept
		0.085	38	44.7	6.57	9.07	-1.646	Accept	-2.328	Accept
		0.090	35	42.1	6.80	9.94	-1.646	Accept	-2.328	Accept
0.02	0.1	0.020	39	41.6	2.18	4.44	-1.646	Accept	-2.328	Accept
		0.026	43	46.0	2.96	5.32	-1.646	Accept	-2.328	Accept
		0.032	46	47.8	1.95	3.21	-1.646	Accept	-2.328	Accept
		0.038	48	50.7	3.00	4.80	-1.646	Accept	-2.328	Accept
		0.044	50	51.9	1.88	2.80	-1.646	Accept	-2.328	Accept
		0.050	54	52.8	-1.47	-2.10	-1.646	R	-2.328	Accept
		0.056	48	51.1	3.11	4.47	-1.646	Accept	-2.328	Accept
		0.062	44	50.7	6.52	9.40	-1.646	Accept	-2.328	Accept
		0.068	42	47.4	5.34	7.78	-1.646	Accept	-2.328	Accept
		0.074	39	44.7	5.48	7.12	-1.646	Accept	-2.328	Accept
		0.080	36	42.9	6.57	10.14	-1.646	Accept	-2.328	Accept
		0.085	34	40.7	6.28	10.11	-1.646	Accept	-2.328	Accept
		0.090	32	39.0	6.65	10.74	-1.646	Accept	-2.328	Accept
		0.095	30	36.5	6.06	10.80	-1.646	Accept	-2.328	Accept
		0.100	29	33.8	5.12	9.32	-1.646	Accept	-2.328	Accept

Table XVI - OC CURVE TESTING , PLAN SET IV

(h_1-1) ACCEPTANCE RULE

P1	P2	Pa	PLAN 04 Accept @ Pa P2	% Late Accepted P1	SE(P)	Z Statistic	Z(.05) + or -	Ho: P1 = P2 Ha: P1 ≠ P2	Z(.02) + or -	Ho: P1 = P2 Ha: P1 ≠ P2
0.02	0.03	0.020	0.950	0.934	0.005	-3.06	1.960	R	2.054	R
		0.021	0.907	0.888	0.007	-1.44	1.960	Accept	2.054	Accept
		0.022	0.846	0.820	0.008	-1.95	1.960	Accept	2.054	Accept
		0.023	0.762	0.728	0.010	-3.44	1.960	R	2.054	R
		0.024	0.654	0.638	0.011	-1.64	1.960	Accept	2.054	Accept
		0.026	0.525	0.493	0.011	-0.18	1.960	Accept	2.054	Accept
		0.027	0.393	0.364	0.010	1.08	1.960	Accept	2.054	Accept
		0.028	0.287	0.224	0.009	1.77	1.960	Accept	2.054	Accept
		0.029	0.139	0.182	0.008	5.12	1.960	R	2.054	R
		0.030	0.100	0.128	0.007	3.28	1.960	R	2.054	R
0.02	0.04	0.020	0.950	0.947	0.005	-0.61	1.960	Accept	2.054	Accept
		0.023	0.878	0.874	0.007	-0.65	1.960	Accept	2.054	Accept
		0.027	0.683	0.702	0.010	1.76	1.960	Accept	2.054	Accept
		0.031	0.436	0.454	0.011	1.65	1.960	Accept	2.054	Accept
		0.034	0.278	0.224	0.010	4.42	1.960	R	2.054	R
		0.037	0.167	0.171	0.008	0.40	1.960	Accept	2.054	Accept
		0.040	0.100	0.108	0.007	1.10	1.960	Accept	2.054	Accept
0.02	0.05	0.020	0.950	0.948	0.005	-0.81	1.960	Accept	2.054	Accept
		0.025	0.853	0.851	0.008	-0.21	1.960	Accept	2.054	Accept
		0.030	0.682	0.674	0.010	-0.80	1.960	Accept	2.054	Accept
		0.035	0.487	0.481	0.011	1.28	1.960	Accept	2.054	Accept
		0.040	0.293	0.324	0.010	2.93	1.960	R	2.054	R
		0.045	0.177	0.178	0.009	0.01	1.960	Accept	2.054	Accept
		0.050	0.100	0.112	0.007	1.67	1.960	Accept	2.054	Accept
0.02	0.06	0.020	0.950	0.942	0.005	2.60	1.960	R	2.054	R
		0.025	0.878	0.893	0.007	2.07	1.960	R	2.054	R
		0.030	0.782	0.765	0.009	0.27	1.960	Accept	2.054	Accept
		0.035	0.612	0.615	0.011	0.21	1.960	Accept	2.054	Accept
		0.040	0.464	0.481	0.011	0.55	1.960	Accept	2.054	Accept
		0.045	0.319	0.319	0.010	-0.03	1.960	Accept	2.054	Accept
		0.050	0.224	0.218	0.009	-0.69	1.960	Accept	2.054	Accept
		0.055	0.151	0.142	0.008	-1.17	1.960	Accept	2.054	Accept
		0.060	0.100	0.102	0.007	0.30	1.960	Accept	2.054	Accept
0.02	0.07	0.020	0.950	0.957	0.005	1.38	1.960	Accept	2.054	Accept
		0.026	0.878	0.889	0.007	1.42	1.960	Accept	2.054	Accept
		0.032	0.782	0.824	0.010	-18.42	1.960	R	2.054	R
		0.038	0.618	0.656	0.011	3.51	1.960	R	2.054	R
		0.044	0.487	0.504	0.011	1.58	1.960	R	2.054	R
		0.050	0.341	0.385	0.011	3.18	1.960	R	2.054	R
		0.056	0.250	0.282	0.010	3.21	1.960	R	2.054	R

Table XVI - OC CURVE TESTING , PLAN SET IV

(h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.040	0.185	0.205	0.009	2.26	1.060	R	2.064	R
		0.055	0.137	0.140	0.008	0.44	1.060	Accept	2.064	Accept
		0.070	0.100	0.090	0.007	-1.53	1.060	Accept	2.064	Accept
0.02	0.08	0.020	0.050	0.058	0.005	1.02	1.060	Accept	2.064	Accept
		0.025	0.092	0.020	0.008	4.21	1.060	R	2.064	R
		0.030	0.031	0.052	0.008	2.62	1.060	R	2.064	R
		0.035	0.738	0.765	0.010	2.78	1.060	R	2.064	R
		0.040	0.642	0.688	0.011	4.02	1.060	R	2.064	R
		0.045	0.520	0.581	0.011	2.75	1.060	R	2.064	R
		0.050	0.426	0.476	0.011	2.49	1.060	R	2.064	R
		0.055	0.347	0.380	0.011	2.06	1.060	R	2.064	R
		0.060	0.278	0.282	0.010	0.82	1.060	Accept	2.064	Accept
		0.065	0.215	0.217	0.009	0.14	1.060	Accept	2.064	Accept
		0.070	0.164	0.162	0.008	-0.20	1.060	Accept	2.064	Accept
		0.075	0.131	0.125	0.007	-0.88	1.060	Accept	2.064	Accept
		0.080	0.100	0.102	0.007	0.30	1.060	Accept	2.064	Accept
0.02	0.09	0.020	0.050	0.063	0.005	2.85	1.060	R	2.064	R
		0.026	0.097	0.011	0.007	2.07	1.060	R	2.064	R
		0.032	0.016	0.856	0.008	4.86	1.060	R	2.064	R
		0.038	0.726	0.767	0.010	4.36	1.060	R	2.064	R
		0.044	0.618	0.681	0.011	3.98	1.060	R	2.064	R
		0.050	0.505	0.559	0.011	4.85	1.060	R	2.064	R
		0.056	0.411	0.459	0.011	4.32	1.060	R	2.064	R
		0.062	0.328	0.354	0.011	2.72	1.060	R	2.064	R
		0.068	0.264	0.277	0.010	2.20	1.060	R	2.064	R
		0.074	0.199	0.196	0.009	-0.38	1.060	Accept	2.064	Accept
		0.080	0.154	0.171	0.008	1.96	1.060	Accept	2.064	Accept
		0.085	0.123	0.124	0.007	0.03	1.060	Accept	2.064	Accept
		0.090	0.100	0.102	0.007	0.30	1.060	Accept	2.064	Accept
0.02	0.1	0.020	0.050	0.065	0.005	3.23	1.060	R	2.064	R
		0.026	0.002	0.040	0.008	5.18	1.060	R	2.064	R
		0.032	0.835	0.871	0.008	4.46	1.060	R	2.064	R
		0.038	0.763	0.787	0.009	3.59	1.060	R	2.064	R
		0.044	0.660	0.710	0.010	4.78	1.060	R	2.064	R
		0.050	0.567	0.605	0.011	3.44	1.060	R	2.064	R
		0.056	0.480	0.502	0.011	1.97	1.060	R	2.064	Accept
		0.062	0.393	0.427	0.011	3.09	1.060	R	2.064	R
		0.068	0.310	0.354	0.011	3.24	1.060	R	2.064	R
		0.074	0.259	0.268	0.010	0.86	1.060	Accept	2.064	Accept
		0.080	0.211	0.222	0.009	1.17	1.060	Accept	2.064	Accept
		0.085	0.174	0.188	0.009	1.75	1.060	Accept	2.064	Accept
		0.090	0.145	0.155	0.008	1.16	1.060	Accept	2.064	Accept
		0.095	0.121	0.132	0.007	1.45	1.060	Accept	2.064	Accept
		0.100	0.100	0.117	0.007	2.37	1.060	R	2.064	R

Table XVII - OC TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	Pa	Accept @ Pa	NTP	Truncation m=1 Hold m	Pr(acc) Actual	Pr(acc) NTP	Truncation m=1 Hold B	Pr(acc) Actual
0.005	0.01	0.005	0.980	4605	4346	0.912	0.909	4352	0.928
		0.006	0.828	4605	4346	0.766	0.764	4352	0.826
		0.007	0.624	4605	4346	0.573	0.569	4352	0.607
		0.008	0.375	4605	4346	0.406	0.404	4352	0.439
		0.009	0.203	4605	4346	0.208	0.209	4352	0.247
		0.010	0.100	4605	4346	0.121	0.119	4352	0.134
0.005	0.02	0.005	0.909	702	530	0.880	0.926	579	0.885
		0.008	0.785	702	530	0.765	0.782	579	0.766
		0.010	0.637	702	530	0.646	0.668	579	0.686
		0.012	0.467	702	530	0.478	0.487	579	0.429
		0.014	0.330	702	530	0.343	0.373	579	0.330
		0.016	0.224	702	530	0.267	0.266	579	0.252
		0.018	0.148	702	530	0.173	0.175	579	0.185
		0.020	0.100	702	530	0.128	0.122	579	0.115
0.005	0.03	0.005	0.950	375	183	0.852	0.956	218	0.924
		0.007	0.892	375	183	0.892	0.924	218	0.869
		0.010	0.787	375	183	0.757	0.786	218	0.715
		0.013	0.608	375	183	0.648	0.650	218	0.550
		0.016	0.467	375	183	0.533	0.515	218	0.424
		0.019	0.341	375	183	0.442	0.405	218	0.329
		0.022	0.245	375	183	0.343	0.288	218	0.240
		0.025	0.179	375	183	0.257	0.213	218	0.169
		0.028	0.128	375	183	0.189	0.141	218	0.114
		0.030	0.100	375	183	0.175	0.120	218	0.109
0.005	0.04	0.005	0.950	182	71	0.950	0.977	116	0.889
		0.007	0.905	182	71	0.911	0.931	116	0.846
		0.010	0.812	182	71	0.847	0.861	116	0.756
		0.013	0.706	182	71	0.773	0.781	116	0.624
		0.016	0.594	182	71	0.687	0.681	116	0.530
		0.019	0.492	182	71	0.642	0.610	116	0.425
		0.022	0.399	182	71	0.548	0.471	116	0.337
		0.025	0.319	182	71	0.460	0.386	116	0.278
		0.028	0.254	182	71	0.419	0.333	116	0.252
		0.031	0.199	182	71	0.369	0.250	116	0.182
		0.034	0.159	182	71	0.295	0.195	116	0.182
		0.037	0.125	182	71	0.282	0.148	116	0.145
		0.040	0.100	182	71	0.221	0.128	116	0.111
0.005	0.05	0.005	0.950	151	76	0.968	0.981	96	0.943
		0.008	0.881	151	76	0.881	0.933	96	0.843
		0.011	0.681	151	76	0.815	0.873	96	0.859

Table XVII - OC TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014	0.725	151	76	0.697	0.774	96	0.707	
		0.017	0.640	151	76	0.659	0.708	96	0.671	
		0.020	0.553	151	76	0.578	0.644	96	0.593	
		0.023	0.473	151	76	0.534	0.574	96	0.525	
		0.026	0.399	151	76	0.478	0.491	96	0.445	
		0.029	0.330	151	76	0.400	0.413	96	0.349	
		0.032	0.269	151	76	0.326	0.326	96	0.293	
		0.035	0.241	151	76	0.309	0.303	96	0.287	
		0.038	0.203	151	76	0.298	0.285	96	0.233	
		0.041	0.171	151	76	0.238	0.214	96	0.199	
		0.044	0.142	151	76	0.192	0.167	96	0.183	
		0.047	0.119	151	76	0.174	0.157	96	0.150	
		0.050	0.100	151	76	0.114	0.101	96	0.116	
0.005	0.06	0.005	0.950	129	83	0.962	0.994	83	0.948	
		0.009	0.878	129	83	0.874	0.931	83	0.885	
		0.013	0.786	129	83	0.756	0.857	83	0.778	
		0.017	0.695	129	83	0.667	0.758	83	0.702	
		0.021	0.600	129	83	0.608	0.716	83	0.578	
		0.025	0.499	129	83	0.504	0.594	83	0.471	
		0.029	0.423	129	83	0.424	0.502	83	0.441	
		0.033	0.352	129	83	0.376	0.439	83	0.374	
		0.037	0.293	129	83	0.304	0.368	83	0.278	
		0.041	0.245	129	83	0.244	0.285	83	0.220	
		0.045	0.203	129	83	0.203	0.230	83	0.188	
		0.049	0.167	129	83	0.154	0.182	83	0.148	
		0.053	0.137	129	83	0.121	0.135	83	0.130	
		0.057	0.116	129	83	0.126	0.137	83	0.120	
		0.060	0.100	129	83	0.120	0.127	83	0.100	
0.005	0.07	0.005	0.950	74	71	0.962	0.984	71	0.959	
		0.010	0.866	74	71	0.878	0.938	71	0.883	
		0.015	0.767	74	71	0.796	0.873	71	0.792	
		0.020	0.669	74	71	0.684	0.780	71	0.670	
		0.025	0.581	74	71	0.595	0.707	71	0.569	
		0.030	0.464	74	71	0.503	0.617	71	0.482	
		0.035	0.387	74	71	0.399	0.504	71	0.415	
		0.040	0.321	74	71	0.302	0.404	71	0.323	
		0.045	0.269	74	71	0.251	0.330	71	0.290	
		0.050	0.219	74	71	0.217	0.285	71	0.238	
		0.055	0.181	74	71	0.191	0.243	71	0.191	
		0.060	0.148	74	71	0.158	0.217	71	0.126	
		0.065	0.121	74	71	0.114	0.155	71	0.110	
		0.070	0.100	74	71	0.119	0.141	71	0.114	

Table XVIII - OC TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	Pa	Accept @ Pa	MTP	Tuncation m=1 Hold @	Pr(acc) Actual	Pr(acc) MTP	Tuncation m=1 Hold @	Pr(acc) Actual
0.01	0.03	0.010	0.950	714	603	0.937	0.967	570	0.935
		0.012	0.895	714	603	0.870	0.917	570	0.860
		0.014	0.812	714	603	0.788	0.852	570	0.772
		0.016	0.706	714	603	0.692	0.732	570	0.673
		0.018	0.581	714	603	0.568	0.588	570	0.578
		0.020	0.448	714	603	0.443	0.475	570	0.446
		0.022	0.352	714	603	0.332	0.331	570	0.376
		0.024	0.250	714	603	0.251	0.284	570	0.256
		0.026	0.188	714	603	0.187	0.174	570	0.187
		0.028	0.139	714	603	0.158	0.158	570	0.151
		0.030	1.000	714	603	0.112	0.124	570	0.097
0.01	0.04	0.010	0.950	350	265	0.945	0.969	281	0.946
		0.013	0.884	350	265	0.884	0.907	281	0.870
		0.016	0.790	350	265	0.778	0.800	281	0.742
		0.019	0.683	350	265	0.678	0.692	281	0.668
		0.022	0.549	350	265	0.568	0.566	281	0.527
		0.025	0.436	350	265	0.444	0.435	281	0.422
		0.028	0.325	350	265	0.328	0.356	281	0.356
		0.031	0.250	350	265	0.261	0.283	281	0.248
		0.034	0.195	350	265	0.212	0.199	281	0.187
		0.037	0.137	350	265	0.188	0.147	281	0.150
		0.040	0.100	350	265	0.102	0.097	281	0.105
0.01	0.05	0.010	0.950	215	138	0.956	0.954	164	0.933
		0.013	0.900	215	138	0.895	0.927	164	0.849
		0.016	0.828	215	138	0.823	0.886	164	0.776
		0.019	0.743	215	138	0.757	0.791	164	0.702
		0.022	0.654	215	138	0.680	0.733	164	0.620
		0.025	0.563	215	138	0.623	0.630	164	0.571
		0.028	0.467	215	138	0.490	0.510	164	0.465
		0.031	0.387	215	138	0.421	0.424	164	0.427
		0.034	0.303	215	138	0.330	0.337	164	0.300
		0.037	0.254	215	138	0.311	0.289	164	0.234
		0.040	0.203	215	138	0.212	0.217	164	0.195
		0.042	0.177	215	138	0.189	0.184	164	0.192
		0.044	0.154	215	138	0.181	0.157	164	0.159
		0.047	0.125	215	138	0.158	0.148	164	0.109
		0.050	0.100	215	138	0.126	0.135	164	0.088
0.01	0.06	0.010	0.950	151	82	0.943	0.974	106	0.910
		0.013	0.899	151	82	0.914	0.952	106	0.869
		0.016	0.855	151	82	0.865	0.893	106	0.823

Table XVIII - OC TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.010	0.788	151	82	0.784	0.810	106	0.758	
		0.022	0.711	151	82	0.755	0.759	106	0.676	
		0.025	0.643	151	82	0.676	0.675	106	0.605	
		0.028	0.588	151	82	0.612	0.609	106	0.516	
		0.031	0.486	151	82	0.516	0.515	106	0.478	
		0.035	0.402	151	82	0.477	0.429	106	0.375	
		0.040	0.300	151	82	0.361	0.353	106	0.276	
		0.043	0.264	151	82	0.328	0.290	106	0.254	
		0.046	0.224	151	82	0.326	0.250	106	0.222	
		0.048	0.185	151	82	0.276	0.213	106	0.182	
		0.051	0.167	151	82	0.202	0.196	106	0.161	
		0.054	0.142	151	82	0.232	0.150	106	0.151	
		0.057	0.119	151	82	0.174	0.114	106	0.129	
		0.060	0.100	151	82	0.166	0.078	106	0.111	
0.01	0.07	0.010	0.950	133	84	0.947	0.966	91	0.934	
		0.015	0.885	133	84	0.871	0.824	91	0.877	
		0.020	0.786	133	84	0.770	0.857	91	0.784	
		0.025	0.700	133	84	0.664	0.752	91	0.660	
		0.030	0.587	133	84	0.585	0.643	91	0.533	
		0.035	0.486	133	84	0.501	0.536	91	0.466	
		0.040	0.393	133	84	0.425	0.447	91	0.389	
		0.045	0.309	133	84	0.349	0.340	91	0.306	
		0.050	0.250	133	84	0.270	0.270	91	0.251	
		0.055	0.199	133	84	0.241	0.210	91	0.193	
		0.060	0.162	133	84	0.187	0.168	91	0.178	
		0.065	0.126	133	84	0.012	0.130	91	0.133	
		0.070	0.100	133	84	0.120	0.111	91	0.102	
0.01	0.08	0.010	0.950	90	36	0.948	0.973	57	0.906	
		0.015	0.882	90	36	0.887	0.921	57	0.853	
		0.020	0.808	90	36	0.831	0.855	57	0.739	
		0.025	0.727	90	36	0.796	0.811	57	0.646	
		0.030	0.613	90	36	0.708	0.714	57	0.557	
		0.035	0.543	90	36	0.663	0.613	57	0.488	
		0.040	0.464	90	36	0.604	0.524	57	0.394	
		0.045	0.387	90	36	0.555	0.480	57	0.332	
		0.050	0.319	90	36	0.478	0.380	57	0.288	
		0.055	0.241	90	36	0.407	0.336	57	0.238	
		0.060	0.224	90	36	0.351	0.274	57	0.212	
		0.065	0.185	90	36	0.323	0.205	57	0.151	
		0.070	0.151	90	36	0.263	0.152	57	0.129	
		0.075	0.123	90	36	0.243	0.146	57	0.115	
		0.080	0.100	90	36	0.231	0.135	57	0.091	

Table XIX - ASN TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	Pa	ASN(Pa)	Hold ∞ Mean # Insp	NTP Mean # Insp	Hold 8 Mean # Insp	Hold ∞ # Saved over NTP	Hold 8 # Saved over NTP
0.005	0.01	0.005	1287	1309.2	1322.6	1303.4	13.3	19.2
		0.006	1693	1699.2	1622.9	1618.9	13.7	104.0
		0.007	2085	1679.7	1695.5	1756.4	15.6	-62.8
		0.008	1764	1681.8	1694.2	1726.6	12.3	-34.5
		0.009	1485	1486.5	1496.9	1501.5	10.3	-4.6
		0.010	1225	1317.2	1323.4	1306.5	6.2	16.9
0.005	0.02	0.006	284	289.0	277.5	273.0	8.5	4.5
		0.008	301	288.7	302.4	291.3	13.7	21.1
		0.010	325	307.6	329.1	312.8	21.5	16.3
		0.012	302	300.9	318.1	303.1	17.2	15.0
		0.014	270	277.2	298.0	293.5	20.8	4.5
		0.016	241	264.7	288.8	272.5	24.1	16.3
		0.018	213	240.1	252.5	244.0	12.4	8.5
		0.020	196	210.9	224.5	220.1	13.7	4.4
0.005	0.03	0.005	122	110.4	124.3	119.9	13.9	4.4
		0.007	134	115.9	144.4	127.8	28.5	16.6
		0.010	146	121.9	155.8	139.3	33.9	16.5
		0.013	150	122.2	163.2	127.2	41.0	26.0
		0.016	138	116.1	154.6	135.5	38.5	19.1
		0.019	126	113.4	146.8	128.1	33.4	18.7
		0.022	113	109.0	136.0	116.4	27.0	19.6
		0.025	100	96.7	123.4	108.2	24.7	15.2
		0.028	88	92.0	107.6	97.1	15.6	10.5
		0.030	82	90.9	102.1	97.6	11.2	4.5
0.005	0.04	0.005	80	84.7	79.8	75.4	15.1	4.4
		0.007	84	84.5	86.8	78.4	22.3	8.4
		0.010	88	84.0	95.1	80.5	31.1	14.6
		0.013	89	83.1	94.6	81.5	31.5	13.1
		0.016	85	81.7	96.6	82.1	34.9	14.5
		0.019	83	81.4	93.6	78.8	32.2	14.8
		0.022	79	58.8	90.4	76.2	31.6	14.2
		0.025	74	57.4	88.1	72.6	30.7	15.5
		0.028	68	54.5	79.7	71.7	25.2	8.0
		0.031	63	54.6	76.9	66.8	22.3	10.1
		0.034	58	50.8	71.3	63.4	20.5	7.9
		0.037	53	48.5	66.7	59.9	18.2	6.8
		0.040	49	46.6	61.1	57.6	14.5	3.5
0.005	0.05	0.005	58	53.8	66.3	57.2	6.5	9.1
		0.008	62	55.0	67.5	61.4	12.5	6.1
		0.011	63	56.5	71.1	62.5	14.6	8.6

Table XIX - ASN TESTING , PLAN SET I

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.014	65	58.3	70.9	64.0	14.6	6.9	
		0.017	67	65.4	72.1	62.0	16.7	10.1	
		0.020	70	60.0	71.8	61.6	15.8	10.2	
		0.023	62	53.3	70.7	62.0	17.4	8.7	
		0.026	57	53.5	69.0	59.0	15.5	10.0	
		0.029	55	52.0	66.3	58.6	14.3	7.7	
		0.032	49	49.8	63.8	55.4	14.0	8.4	
		0.035	46	49.1	60.4	52.8	11.3	7.6	
		0.038	43	47.4	56.7	51.0	9.3	5.7	
		0.041	41	45.1	52.2	48.0	7.1	4.2	
		0.044	38	43.8	49.0	47.1	5.2	1.8	
		0.047	36	41.7	45.5	43.2	3.8	2.3	
		0.050	34	39.2	42.3	40.8	3.1	1.5	
0.005	0.06	0.005	46	46.9	48.8	47.4	1.9	1.4	
		0.009	48	48.9	53.5	49.6	4.6	3.9	
		0.013	49	52.0	56.8	51.9	4.8	4.9	
		0.017	50	52.0	58.0	51.7	6.0	6.3	
		0.021	56	51.6	59.2	50.6	8.6	7.6	
		0.025	49	49.1	56.6	51.3	7.5	5.3	
		0.029	43	49.6	55.1	48.9	6.5	6.2	
		0.033	40	46.4	51.0	48.8	4.6	2.1	
		0.037	38	45.8	50.8	45.2	5.0	5.6	
		0.041	36	42.8	46.5	43.9	3.7	2.6	
		0.045	33	41.1	44.3	40.6	3.2	3.7	
		0.049	31	39.4	42.3	39.3	2.9	3.0	
		0.053	29	38.5	38.4	36.5	1.9	1.9	
		0.057	27	34.1	35.7	34.9	1.6	0.8	
		0.060	25	33.9	35.0	32.6	1.1	2.5	
0.005	0.07	0.005	37	39.8	40.2	39.6	0.5	0.6	
		0.010	39	42.1	42.8	43.0	0.7	-0.2	
		0.015	40	43.5	44.2	43.5	0.8	0.8	
		0.020	41	43.5	44.3	43.0	0.8	1.3	
		0.025	42	43.3	44.2	43.3	0.8	0.8	
		0.030	38	43.2	44.0	41.7	0.8	2.3	
		0.035	34	40.1	40.6	40.3	0.6	0.5	
		0.040	31	38.3	38.8	39.0	0.5	-0.2	
		0.045	28	37.2	37.7	37.3	0.5	0.4	
		0.050	27	34.9	35.2	35.1	0.4	0.2	
		0.055	25	32.1	32.4	33.9	0.3	-1.4	
		0.060	23	33.0	33.3	31.9	0.3	1.4	
		0.065	21	29.0	29.2	29.8	0.2	-0.6	
		0.070	20	27.4	27.6	27.3	0.1	0.2	

Table XX - ASN TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

P1	P2	Pa	ASN(Pa)	Hold α Mean # Insp	NTP Mean # Insp	Hold β Mean # Insp	Hold α # Saved over NTP	Hold β # Saved over NTP
0.01	0.03	0.010	217	218.0	216.8	225.4	-1.2	-8.6
		0.012	245	245.7	243.6	248.8	-3.1	-6.2
		0.014	271	269.1	264.3	266.6	-4.8	-2.3
		0.016	295	271.7	294.7	277.3	23.0	17.4
		0.018	363	291.0	307.0	292.9	16.0	14.1
		0.020	288	284.0	300.3	284.5	16.3	15.8
		0.022	267	269.5	298.2	271.0	28.7	27.2
		0.024	250	256.6	264.8	254.8	8.1	10.0
		0.026	222	243.6	246.2	236.3	2.6	9.9
		0.028	199	236.3	216.4	216.9	-19.8	-0.4
		0.030	181	206.7	205.0	192.3	-1.7	12.7
0.01	0.04	0.010	121	116.8	121.5	122.6	4.7	-1.1
		0.013	134	132.7	134.7	135.5	2.1	-0.8
		0.016	145	142.9	154.6	146.7	11.8	7.9
		0.019	162	145.5	161.7	153.7	16.2	8.0
		0.022	165	148.5	166.3	152.5	17.8	13.8
		0.025	150	150.3	160.5	148.1	10.2	12.4
		0.028	138	138.4	155.1	143.7	16.6	11.4
		0.031	123	136.2	141.5	133.7	5.3	7.8
		0.034	112	121.6	132.3	123.5	10.4	8.8
		0.037	102	107.6	116.9	114.8	9.1	2.1
		0.040	92	101.8	107.1	104.3	5.4	2.8
0.01	0.05	0.010	81	78.8	87.0	82.0	8.2	5.0
		0.013	88	82.5	90.2	86.7	7.7	3.5
		0.016	92	87.3	98.2	93.0	10.9	5.2
		0.019	94	88.8	102.1	94.8	13.3	7.3
		0.022	97	90.9	104.3	98.5	13.4	5.8
		0.025	98	91.2	105.1	96.7	14.9	9.5
		0.028	99	89.1	106.2	95.1	16.1	11.0
		0.031	91	86.6	99.4	92.5	12.8	6.9
		0.034	90	84.7	95.5	90.8	10.7	4.7
		0.037	83	82.8	93.1	85.6	10.3	7.6
		0.040	76	76.9	88.6	83.7	12.7	4.9
		0.042	71	76.2	82.1	80.9	5.9	1.8
		0.044	67	70.5	70.9	76.7	0.4	3.2
		0.047	62	67.4	77.2	69.7	9.8	7.5
		0.050	58	60.3	68.8	68.9	-8.5	-0.2
0.01	0.06	0.010	60	54.8	61.5	60.2	6.6	1.3
		0.013	63	57.7	68.0	61.9	10.3	6.1
		0.016	68	60.6	70.0	64.7	10.4	5.3

Table XX - ASN TESTING , PLAN SET II

EXTENDED (h_1-1) ACCEPTANCE RULE

(CONTINUED)

		0.019	70	60.3	75.2	67.2		14.9	8.9
		0.022	72	60.9	75.8	68.0		14.8	7.7
		0.025	76	60.2	74.4	67.8		14.2	6.9
		0.028	80	59.9	76.9	68.2		17.0	10.7
		0.031	76	59.9	77.0	68.8		17.1	10.2
		0.035	68	60.4	73.6	64.6		15.3	9.2
		0.040	60	54.2	69.1	61.2		14.9	7.9
		0.043	56	53.7	66.0	57.7		12.3	8.3
		0.046	53	53.8	63.7	57.2		9.9	6.5
		0.049	51	50.5	59.6	55.6		9.2	9.1
		0.051	49	48.3	57.6	54.2		9.5	9.6
		0.054	48	48.8	54.5	51.8		6.4	2.7
		0.057	43	46.5	52.0	47.5		5.5	4.5
		0.060	41	42.4	47.2	46.4		4.8	9.7
0.01	0.07	0.010	47	46.2	48.8	48.3		2.6	6.5
		0.015	52	50.8	54.9	50.3		4.0	4.6
		0.020	55	53.0	58.0	54.2		5.8	4.6
		0.025	58	54.3	61.5	55.6		7.2	5.9
		0.030	57	52.5	61.6	55.3		9.1	6.3
		0.035	55	52.1	59.5	53.3		7.4	6.2
		0.040	49	50.8	57.0	52.5		6.0	5.3
		0.045	47	49.0	54.4	49.3		5.4	5.1
		0.050	43	46.4	50.2	48.7		3.8	1.5
		0.055	39	45.0	48.5	44.5		1.8	2.4
		0.060	36	41.8	45.6	43.1		3.8	2.5
		0.065	33	38.4	42.0	39.5		4.4	3.3
		0.070	31	36.4	38.5	36.1		2.2	2.4
0.01	0.08	0.010	39	32.0	39.7	37.2		7.7	2.5
		0.015	42	32.2	43.2	38.6		11.1	4.7
		0.020	43	31.9	46.9	39.5		15.1	7.4
		0.025	44	32.1	46.8	40.2		14.7	6.6
		0.030	48	31.6	47.7	40.1		16.2	7.6
		0.035	49	30.8	48.7	40.1		18.0	8.6
		0.040	44	30.8	45.3	38.7		15.3	6.6
		0.045	39	29.8	44.3	36.7		14.7	7.7
		0.050	37	28.9	43.8	36.6		14.9	7.2
		0.055	35	27.6	41.3	34.5		13.8	6.8
		0.060	32	27.4	38.1	32.7		10.7	5.4
		0.065	30	26.7	37.1	32.3		10.4	4.7
		0.070	28	24.8	35.6	29.8		10.8	5.8
		0.075	26	24.5	32.6	29.3		8.1	8.3
		0.080	25	23.6	29.9	27.4		6.3	2.5

APPENDIX C

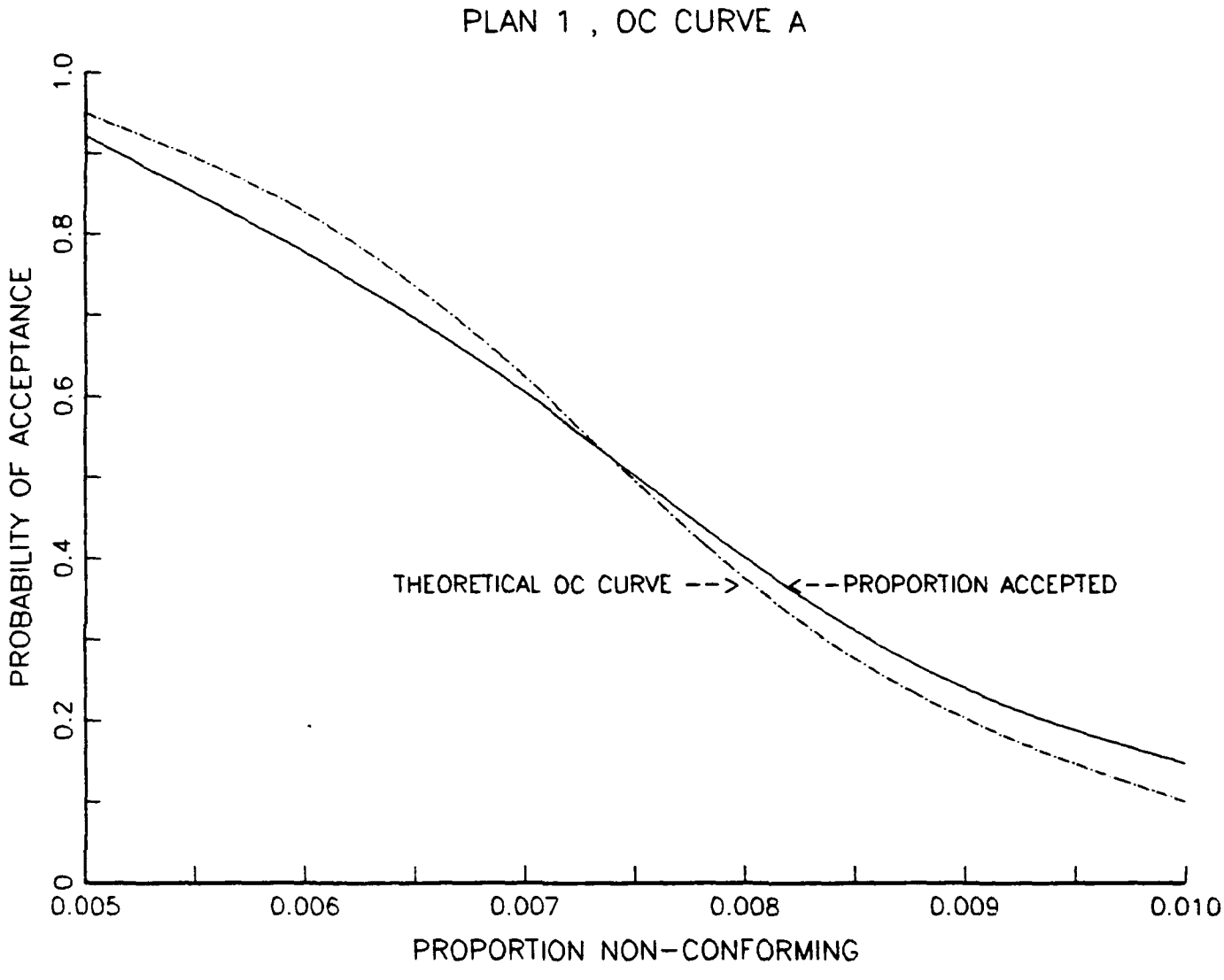


Figure 8 - OC CURVE , PLAN SET I , CURVE A

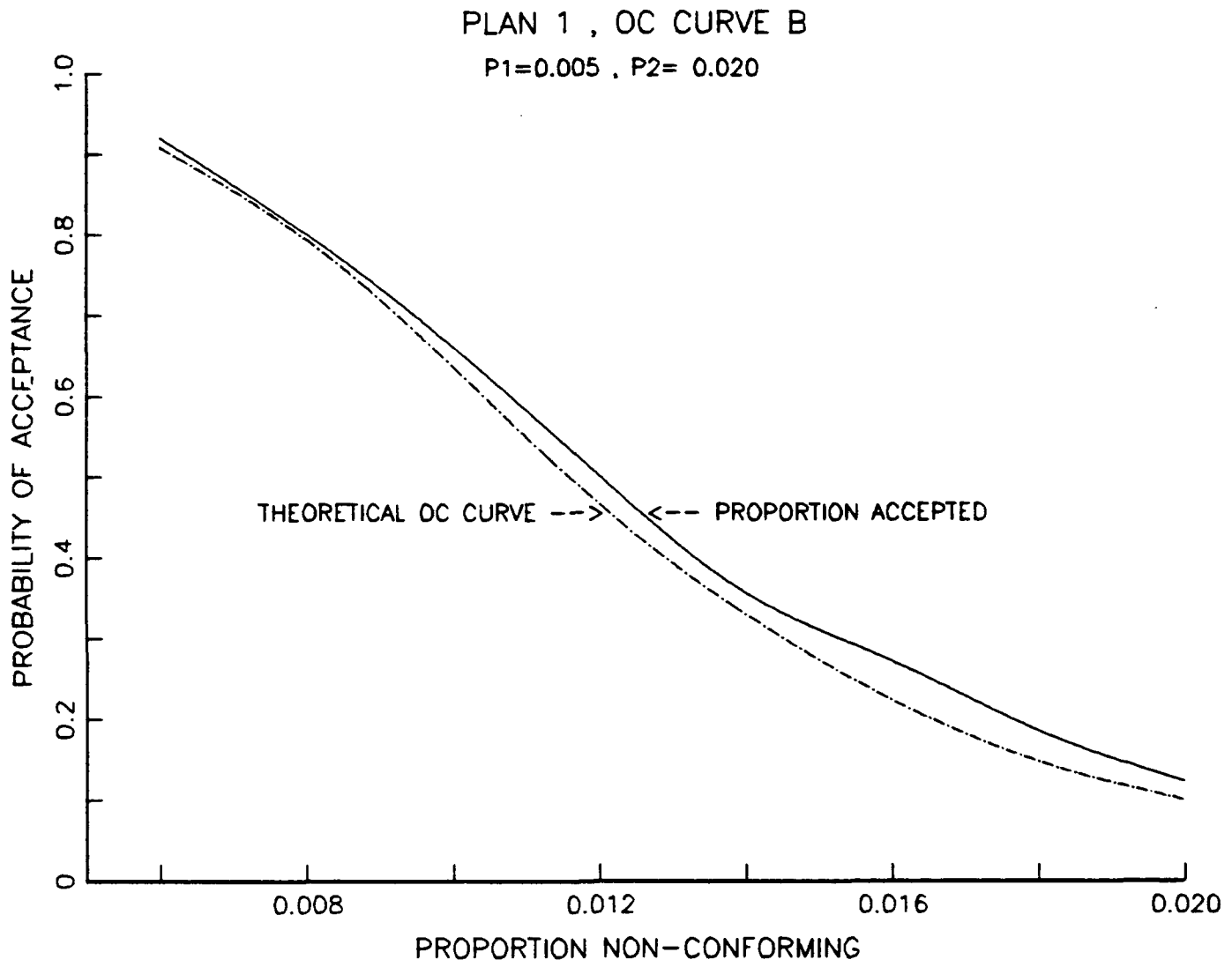


Figure 9 - OC CURVE , PLAN SET I , CURVE B

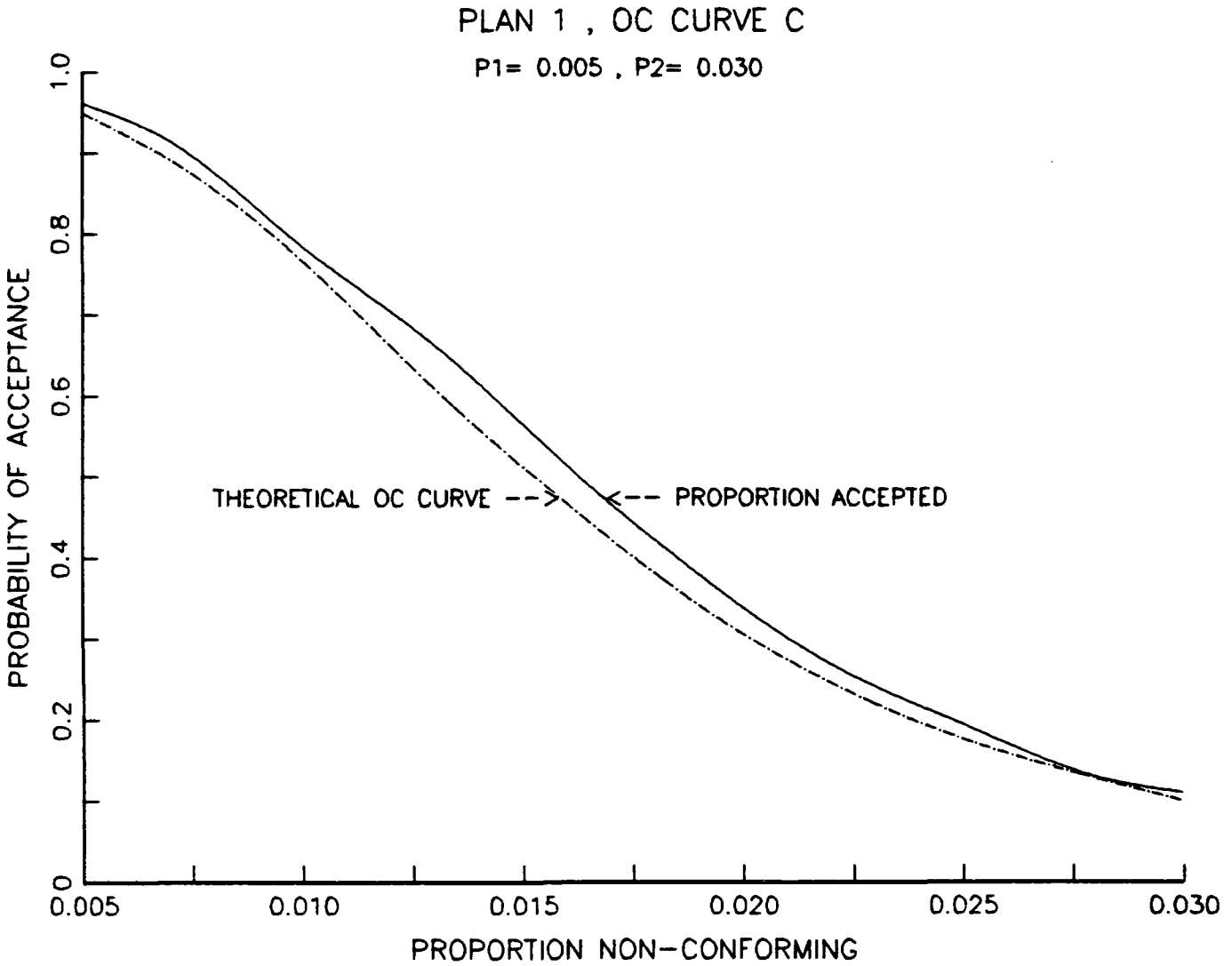


Figure10 - OC CURVE , PLAN SET I , CURVE C

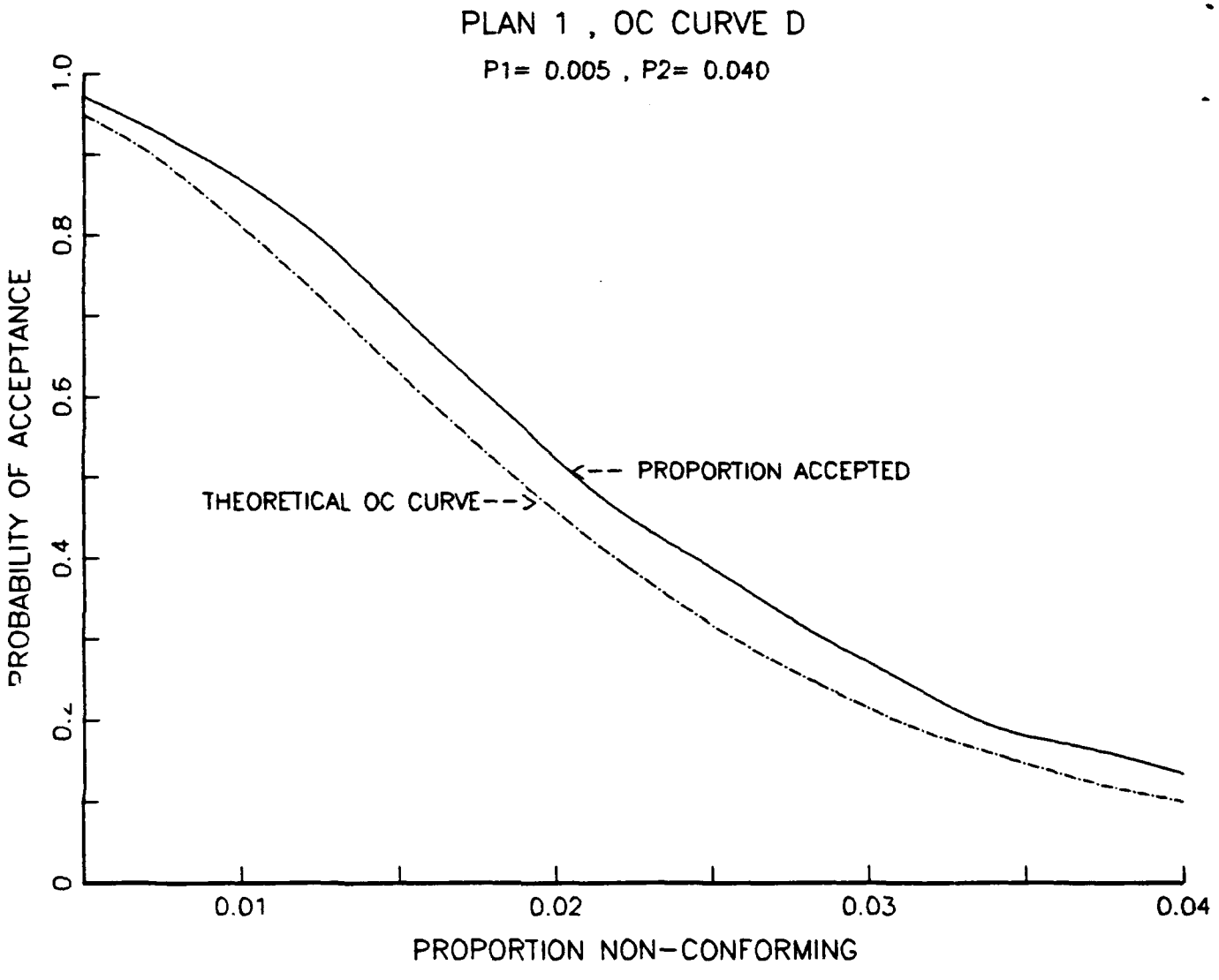


Figure 11 - OC CURVE , PLAN SET I , CURVE D

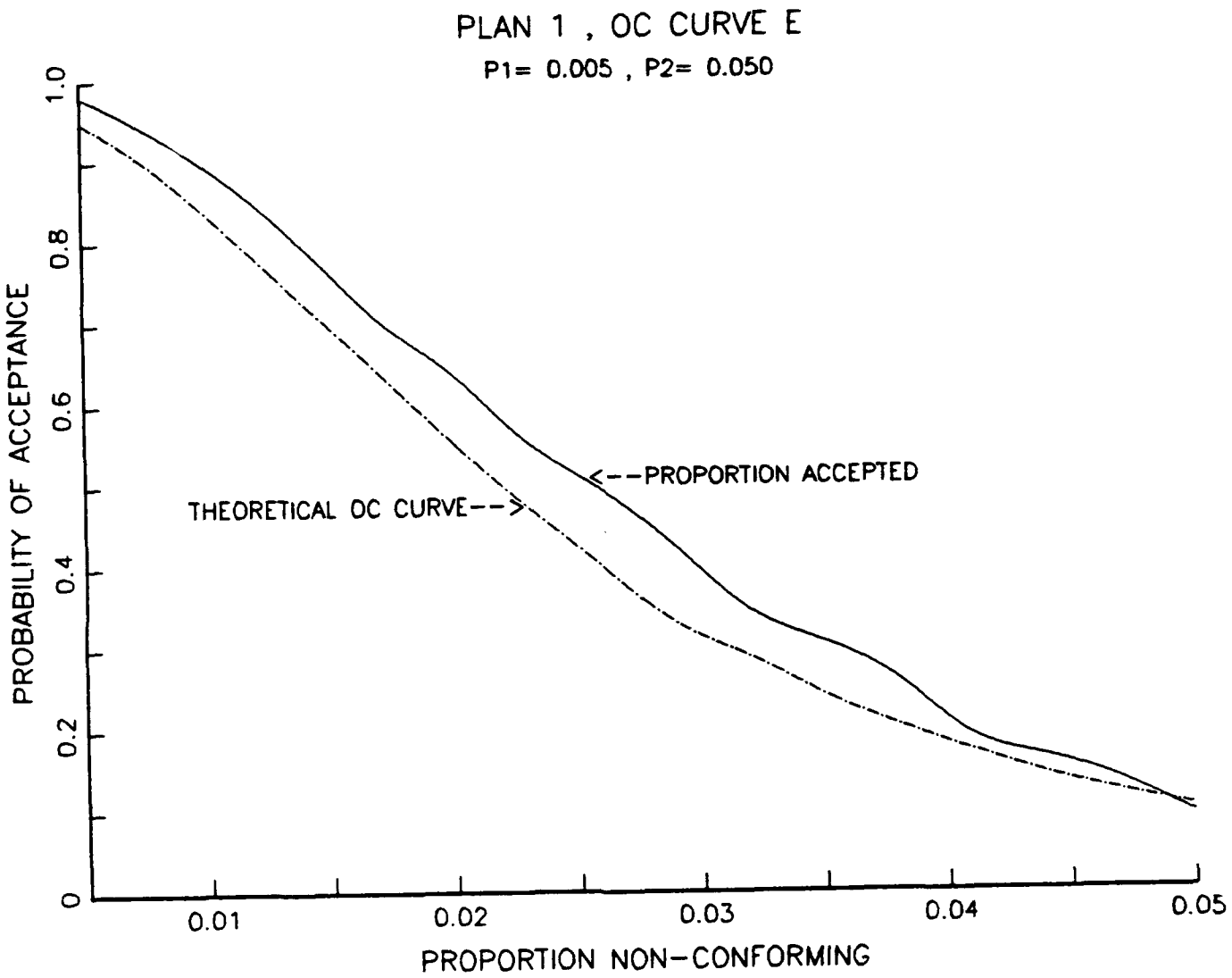


Figure 12 - OC CURVE , PLAN SET I , CURVE E

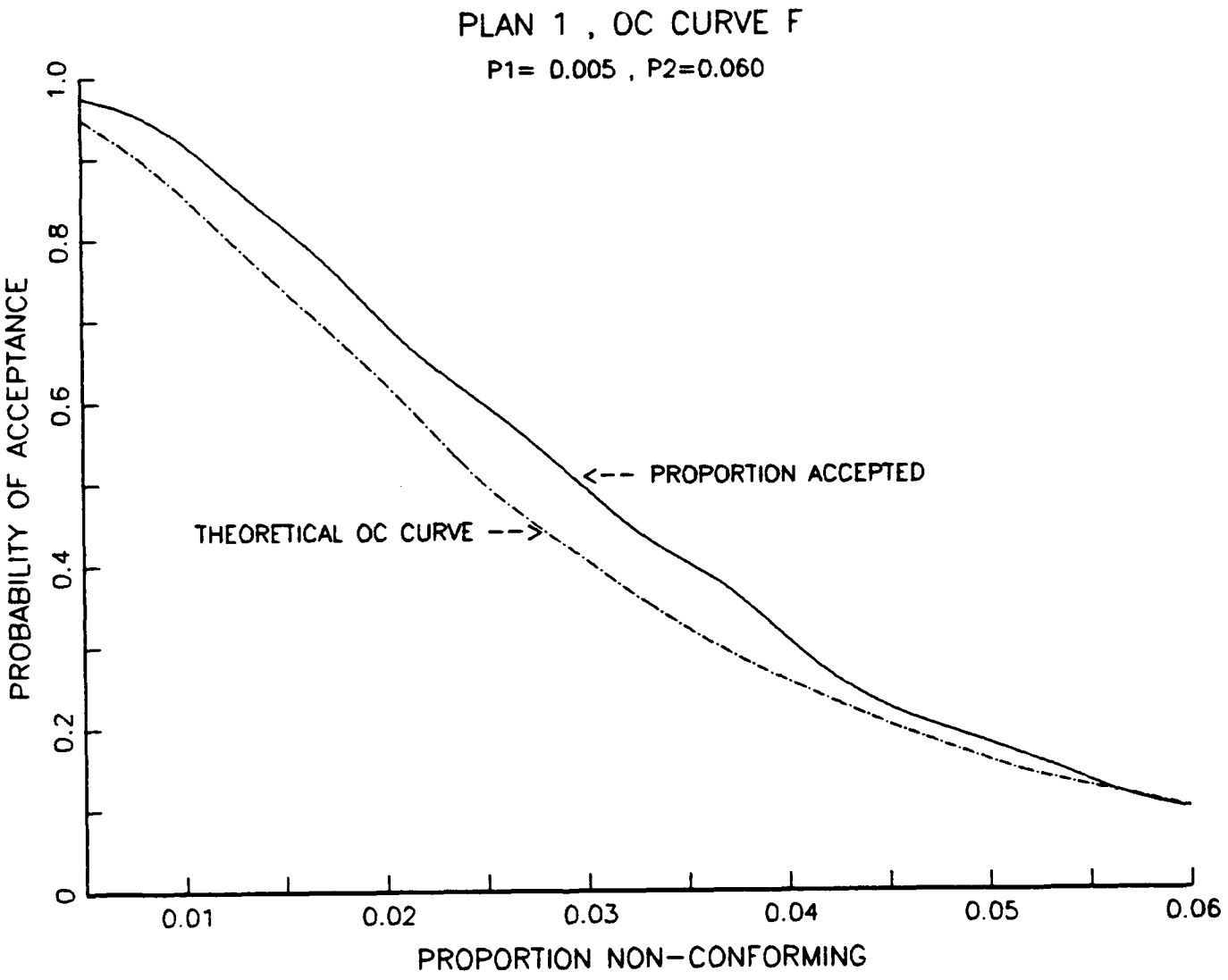


Figure 13 - OC CURVE , PLAN SET I , CURVE F

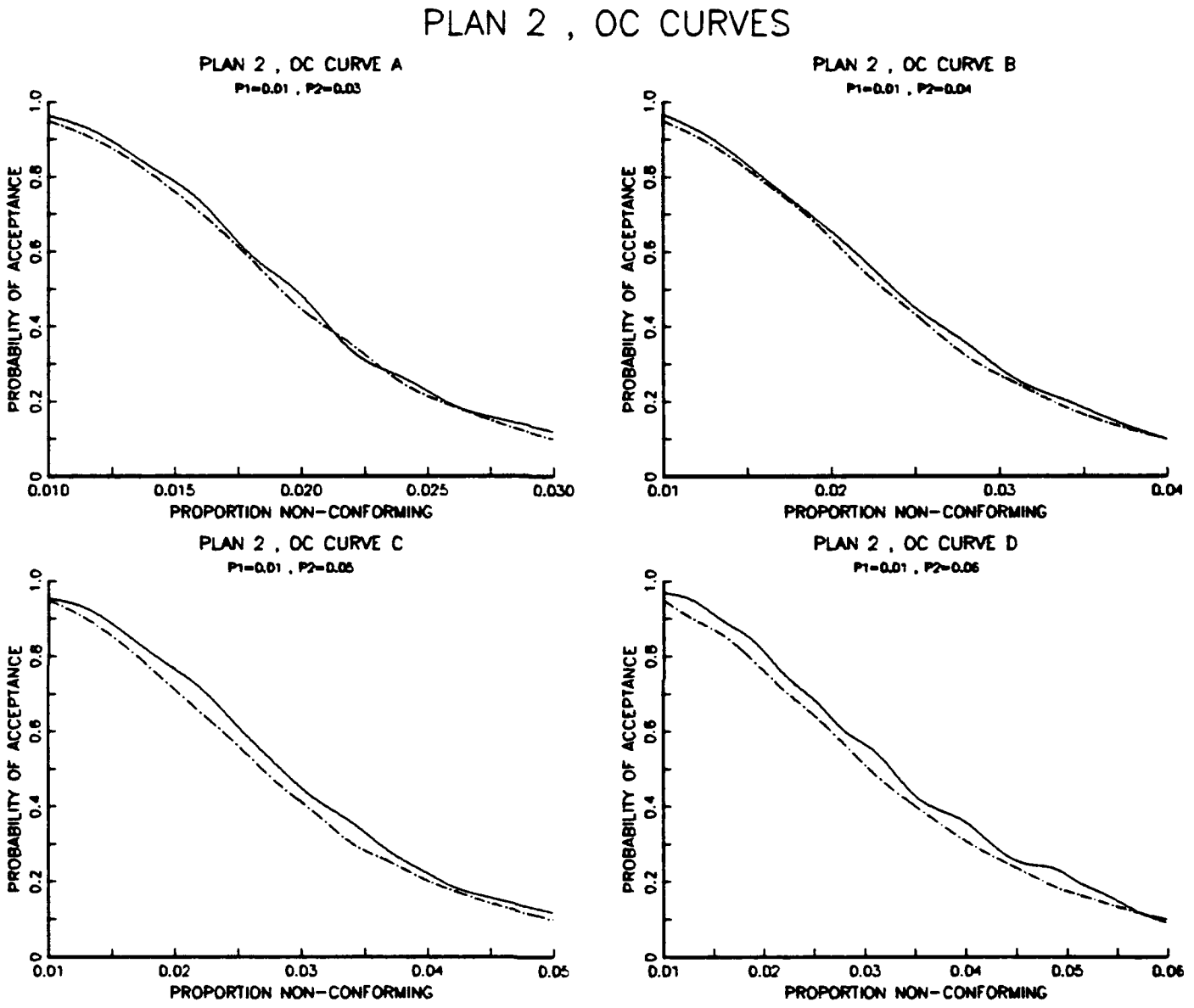
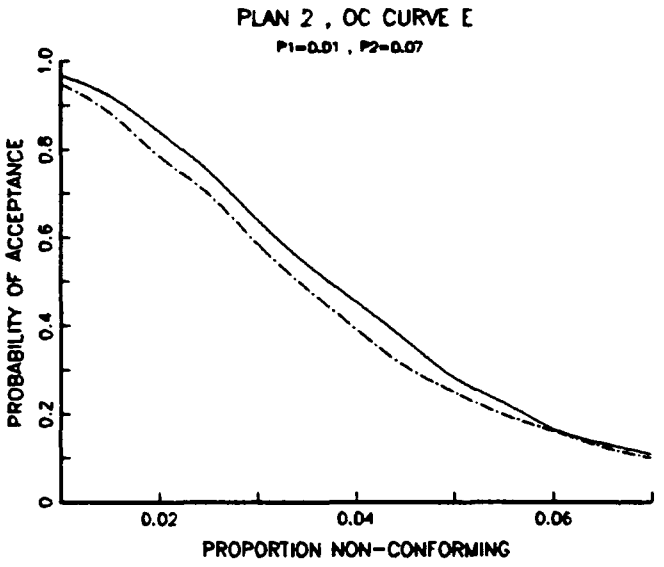


Figure 14 - OC CURVES , PLAN SET II , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

PLAN 2 , OC CURVES



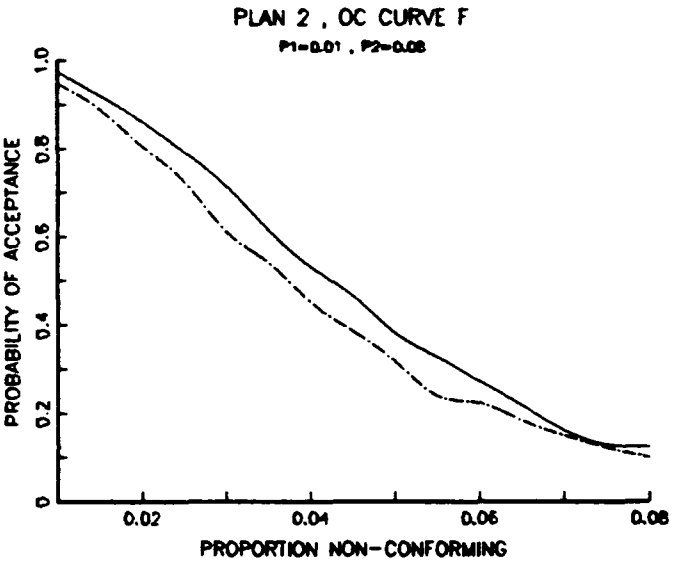


Figure 15 - OC CURVES , PLAN SET II , CURVES E AND D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

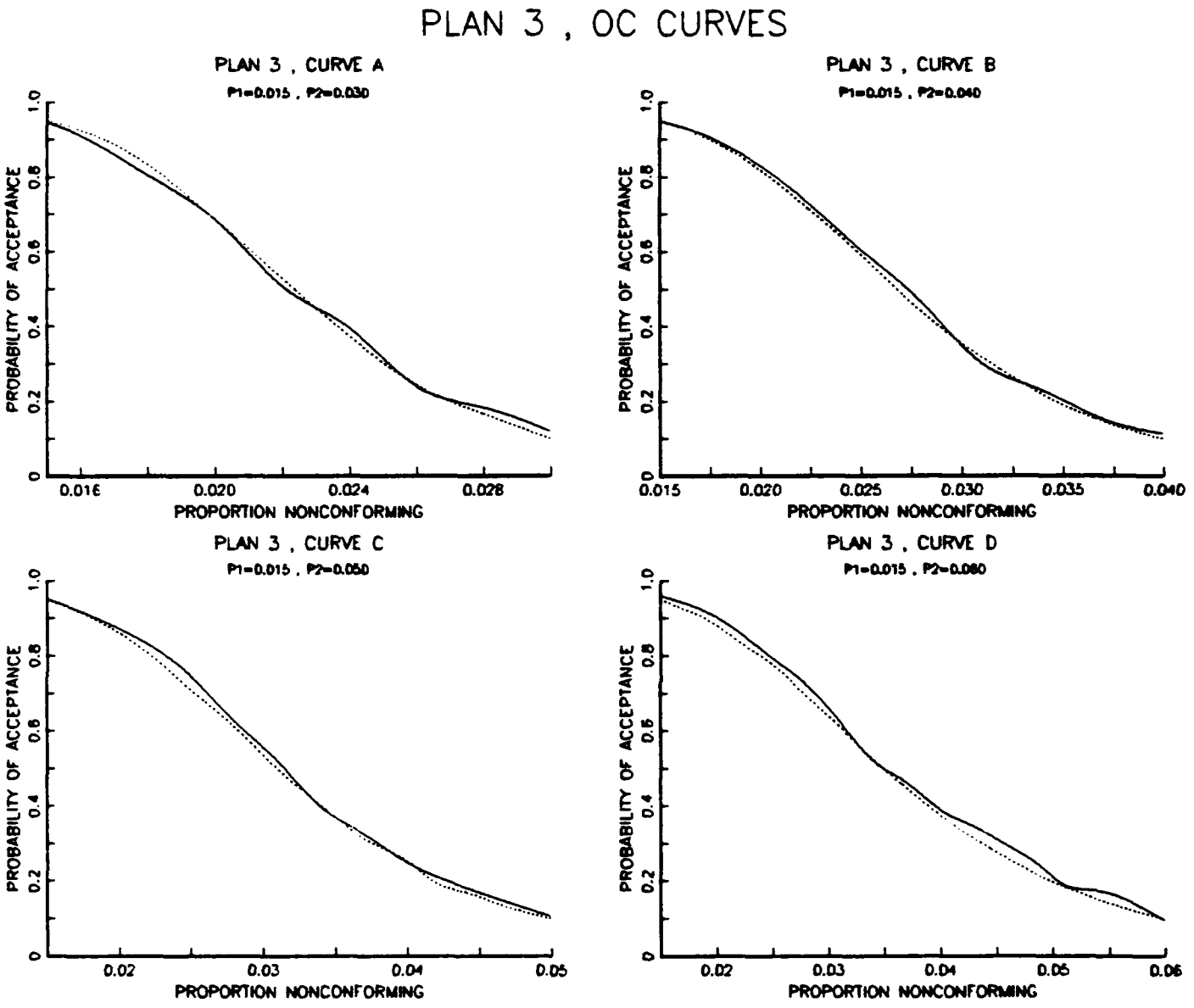


Figure 16 - OC CURVES , PLAN SET III , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

PLAN 3 , OC CURVES

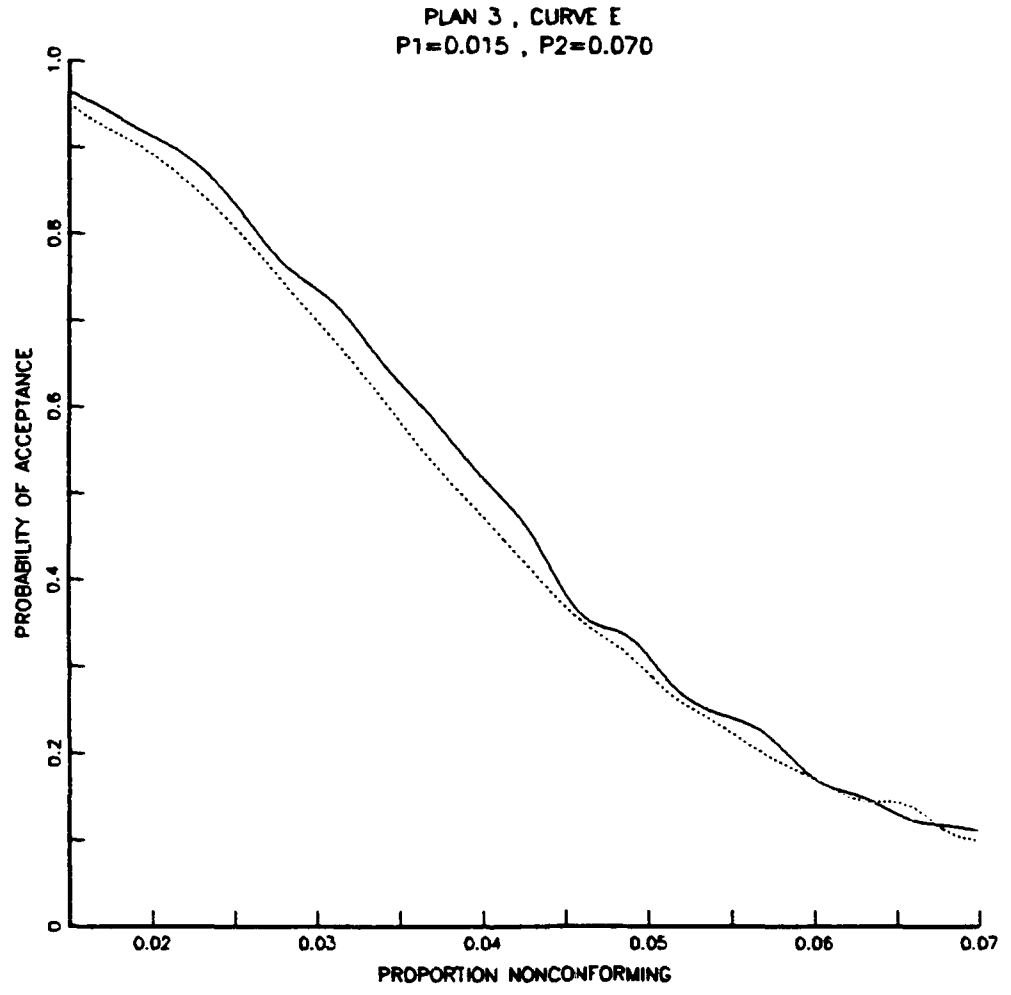


Figure 17 - OC CURVE , PLAN SET III , CURVES E
(SOLID LINE - TRUE , DASHED - THEORETICAL)

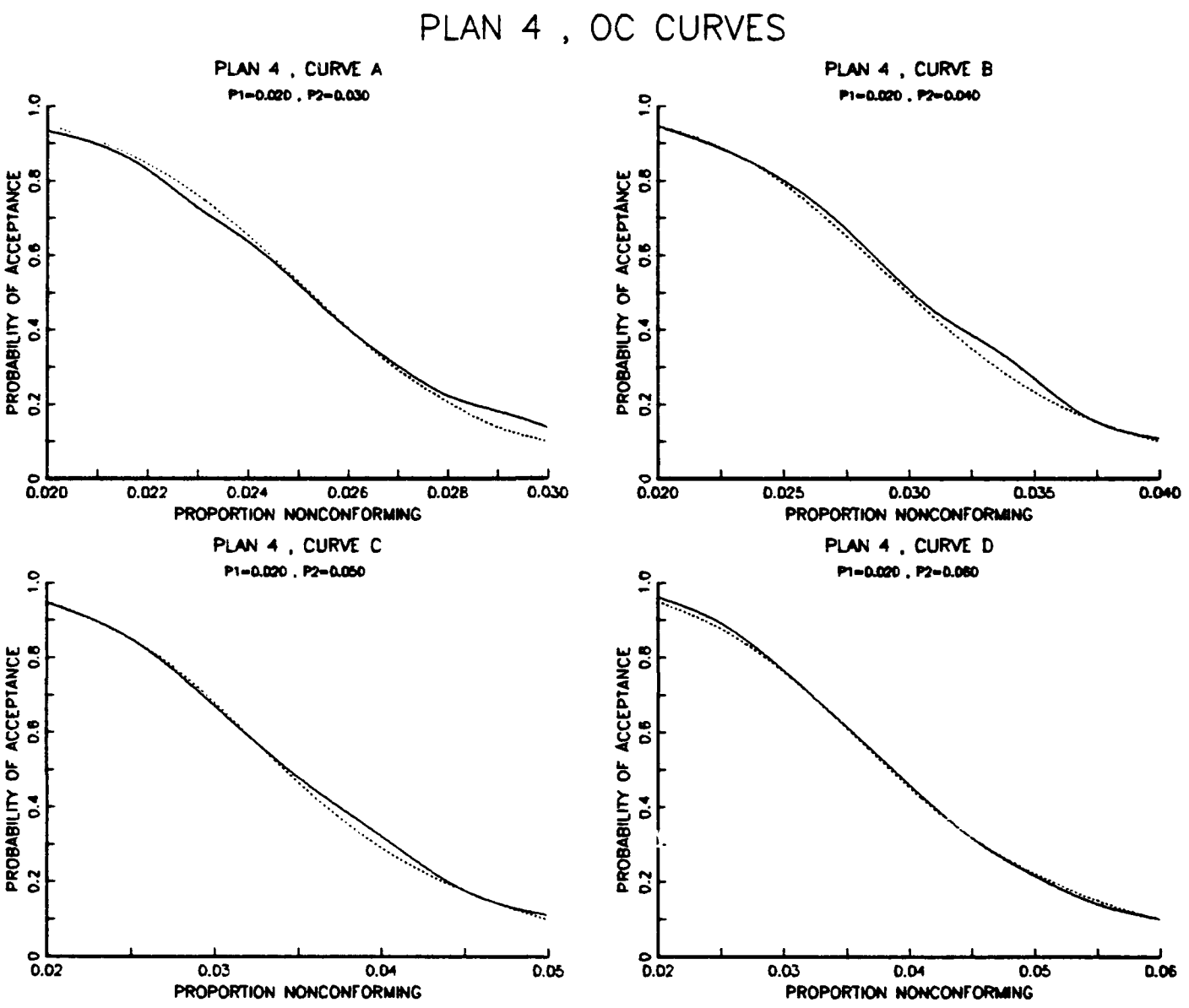


Figure 18 - OC CURVES , PLAN SET IV , CURVES A THRU D
(SOLID LINE - TRUE , DASHED - THEORETICAL)

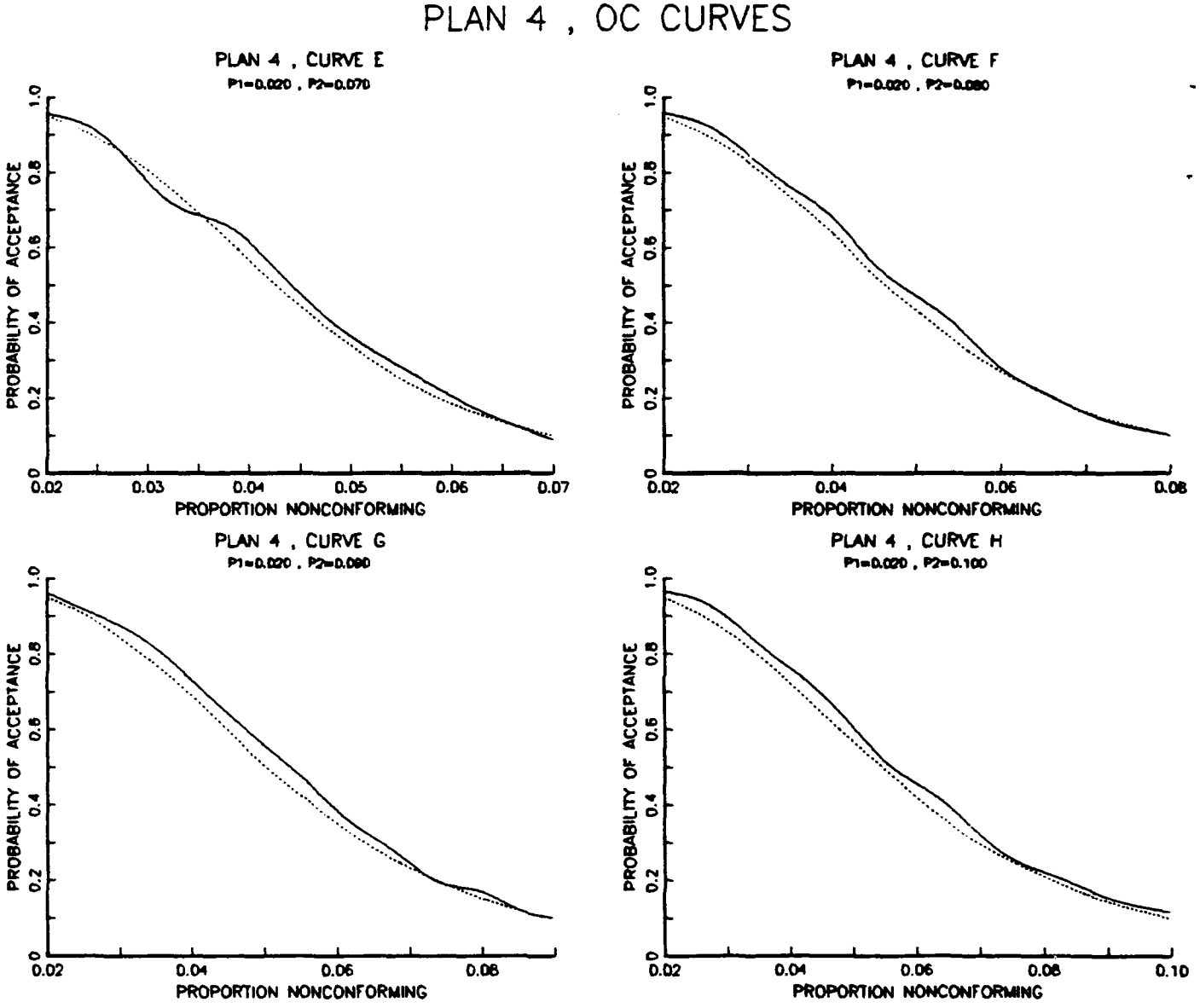


Figure 19 - OC CURVES , PLAN SET IV , CURVES E THRU H
(SOLID LINE - TRUE , DASHED - THEORETICAL)

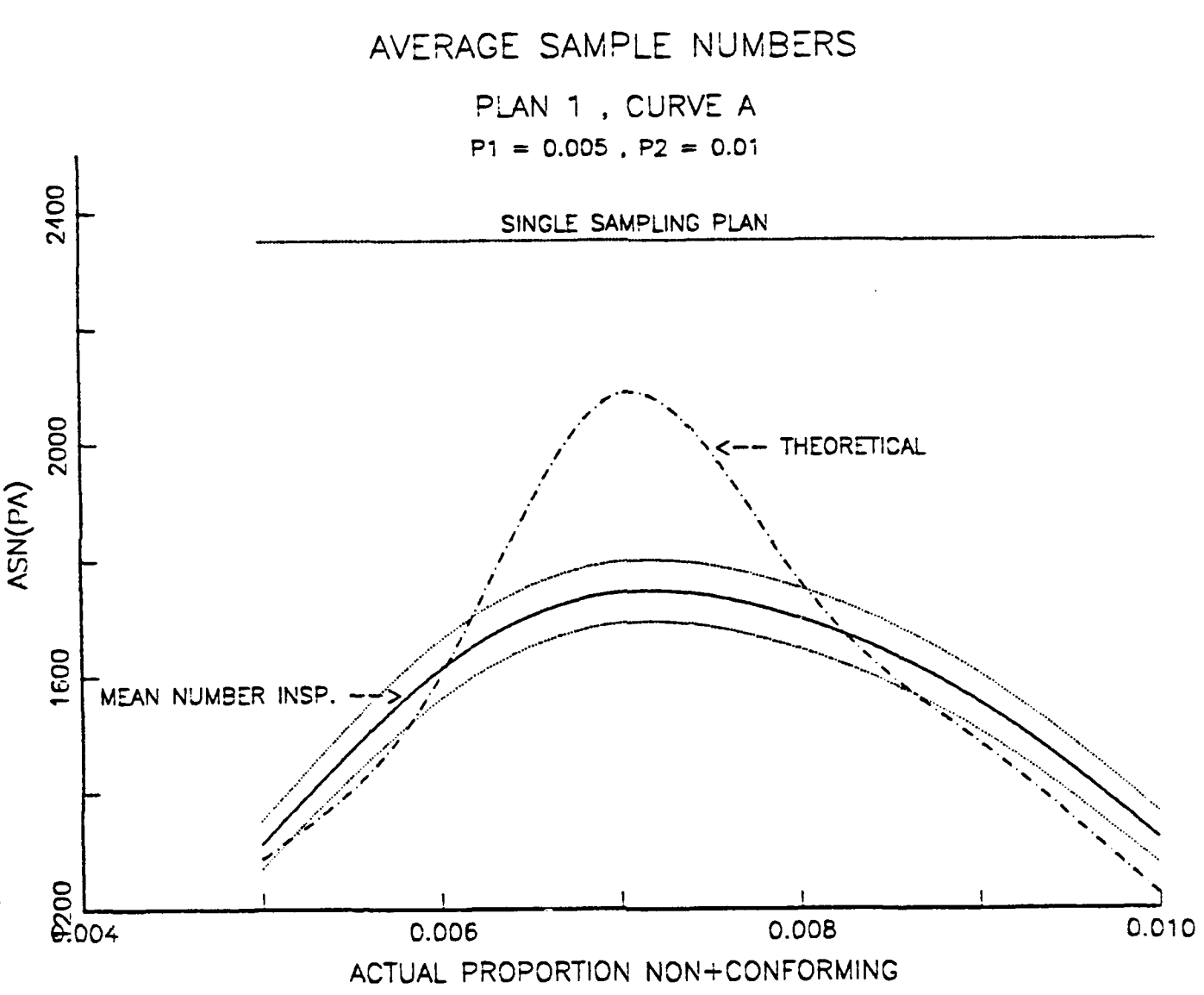


Figure 20 - ASN CURVE , PLAN SET I , CURVE A

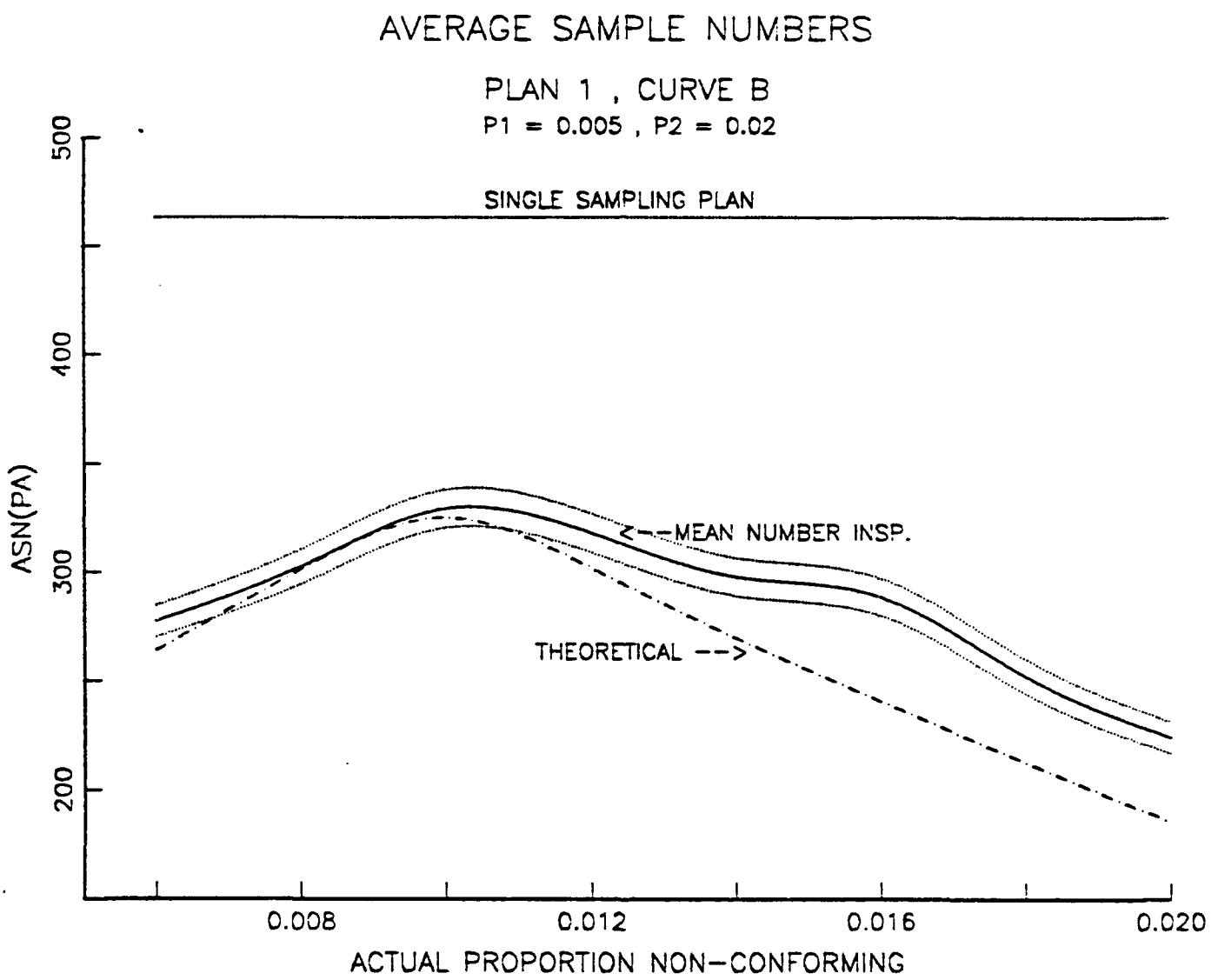


Figure 21 - ASN CURVE , PLAN SET I , CURVF B

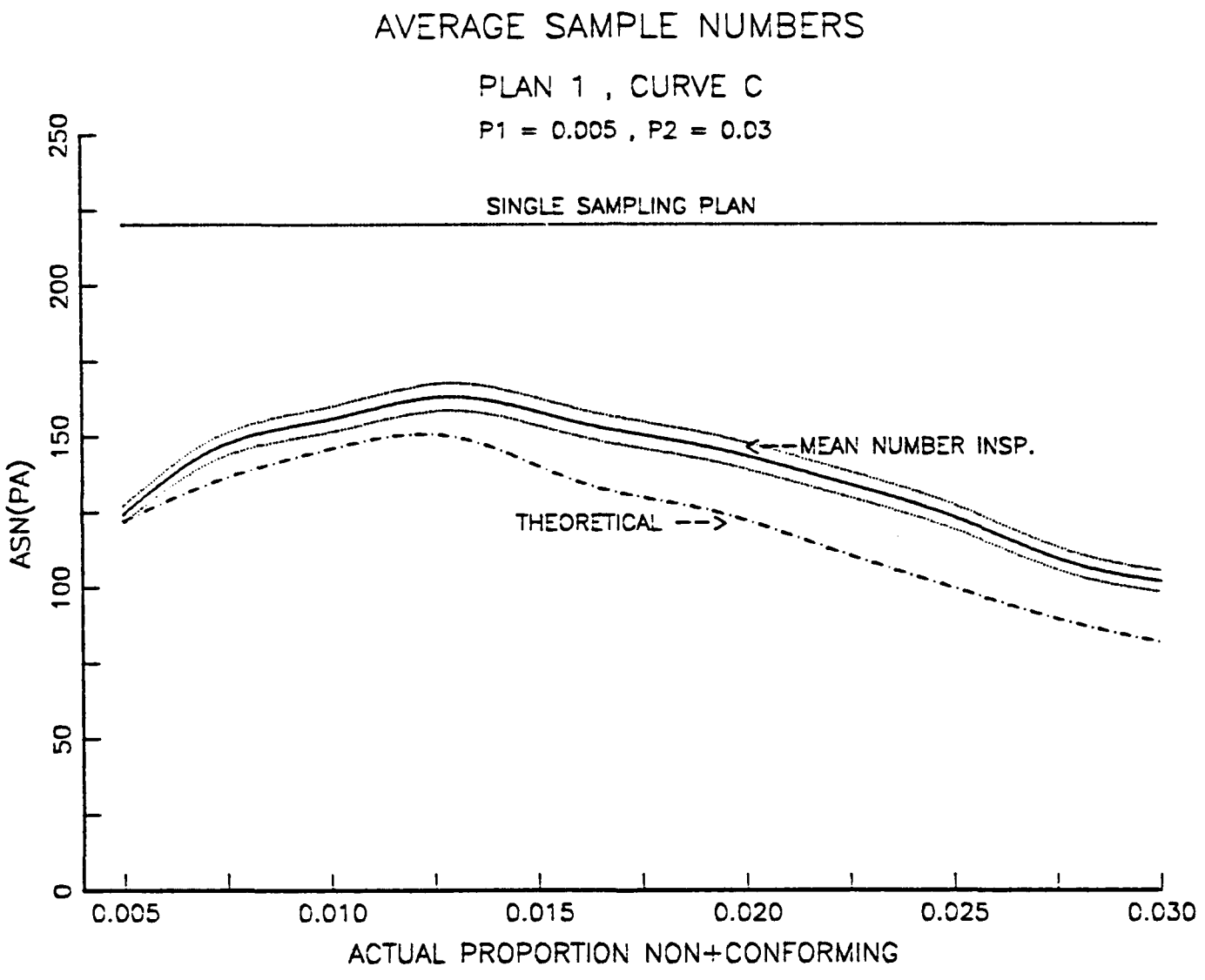


Figure 22 - ASN CURVE , PLAN SET I , CURVE C

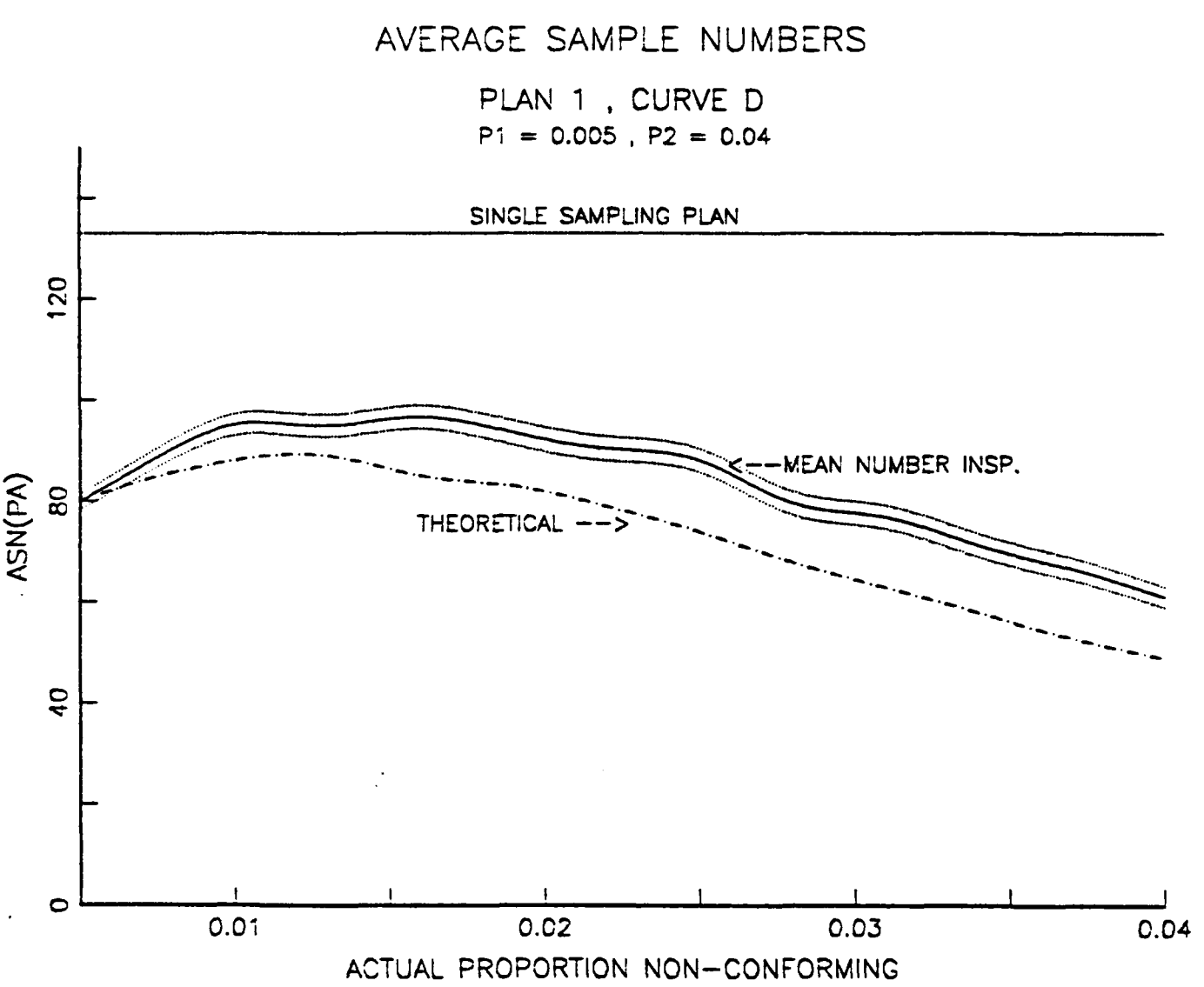


Figure 23 - ASN CURVE , PLAN SET I , CURVE D

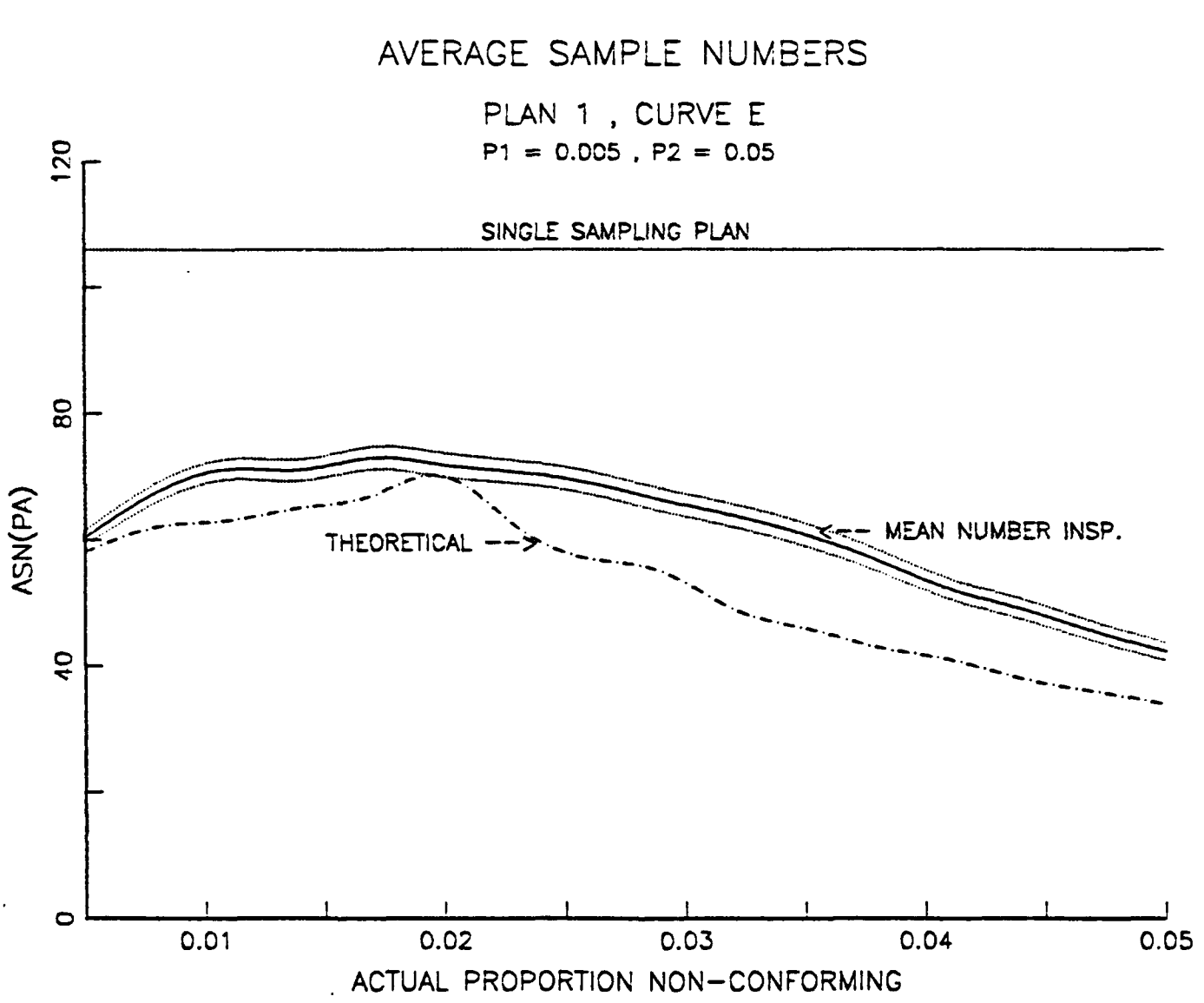


Figure 24 - ASN CURVE , PLAN SET I , CURVE E

REPRODUCED AT GOVERNMENT EXPENSE

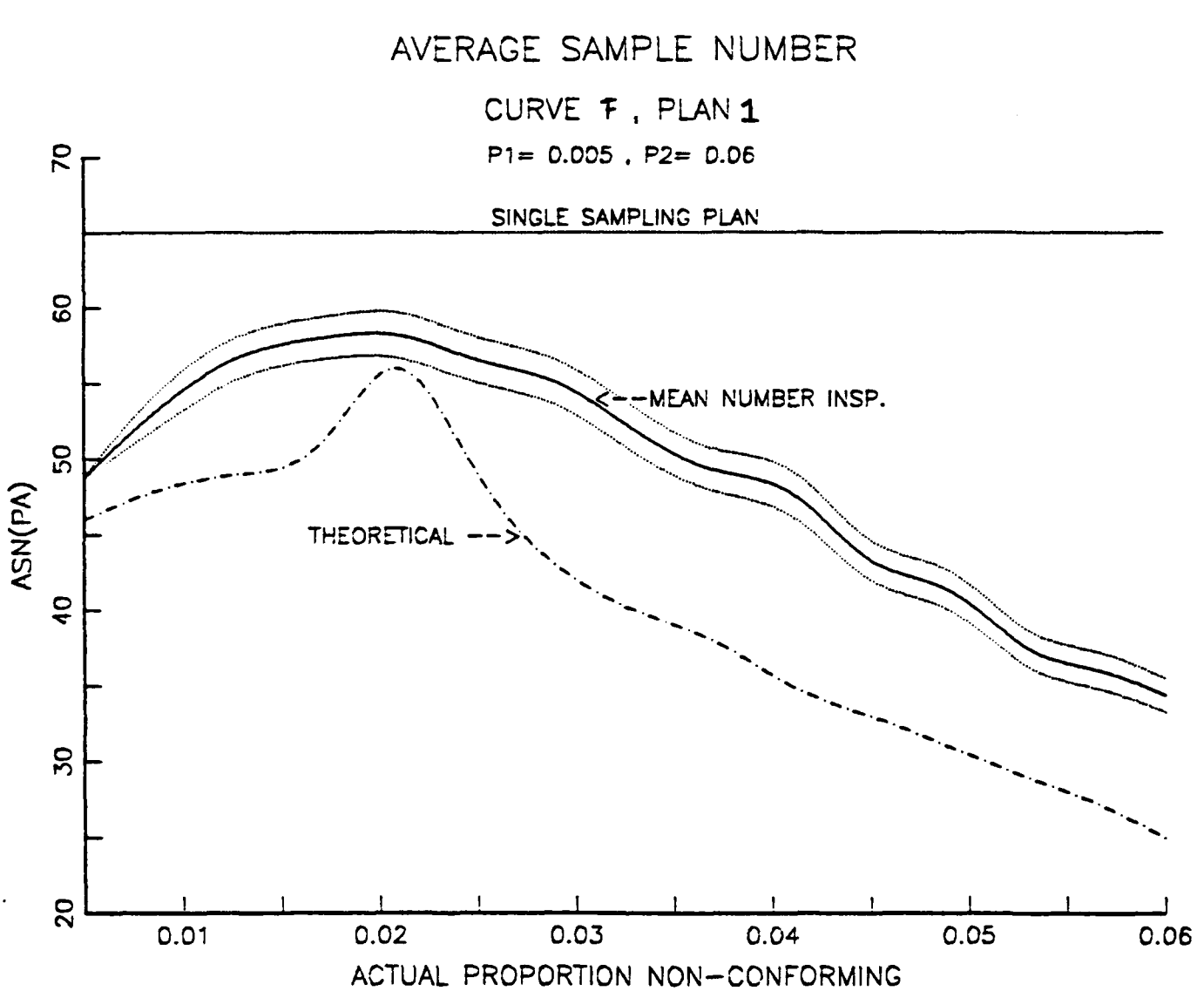


Figure 25 - ASN CURVE , PLAN SET I , CURVE F

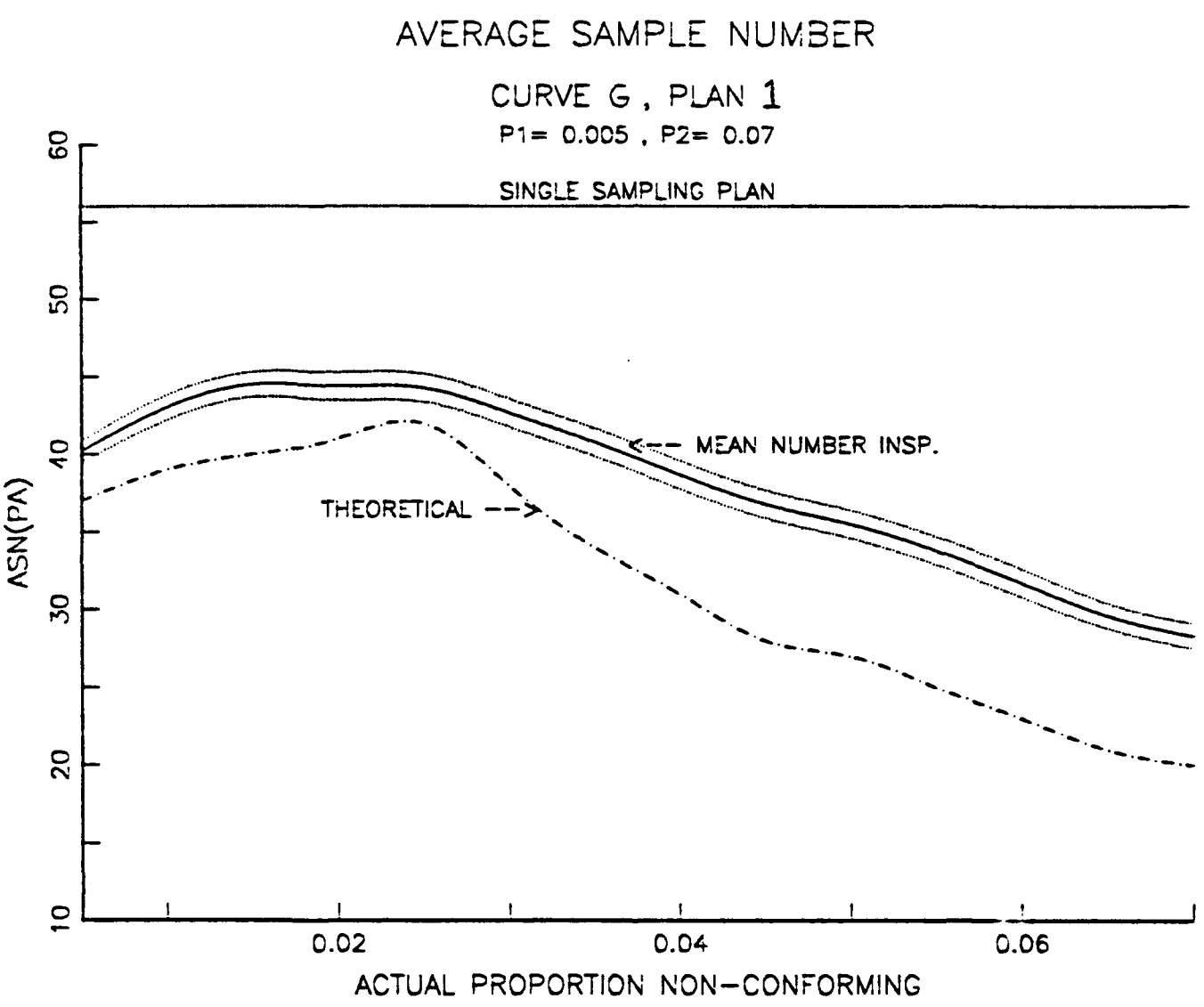
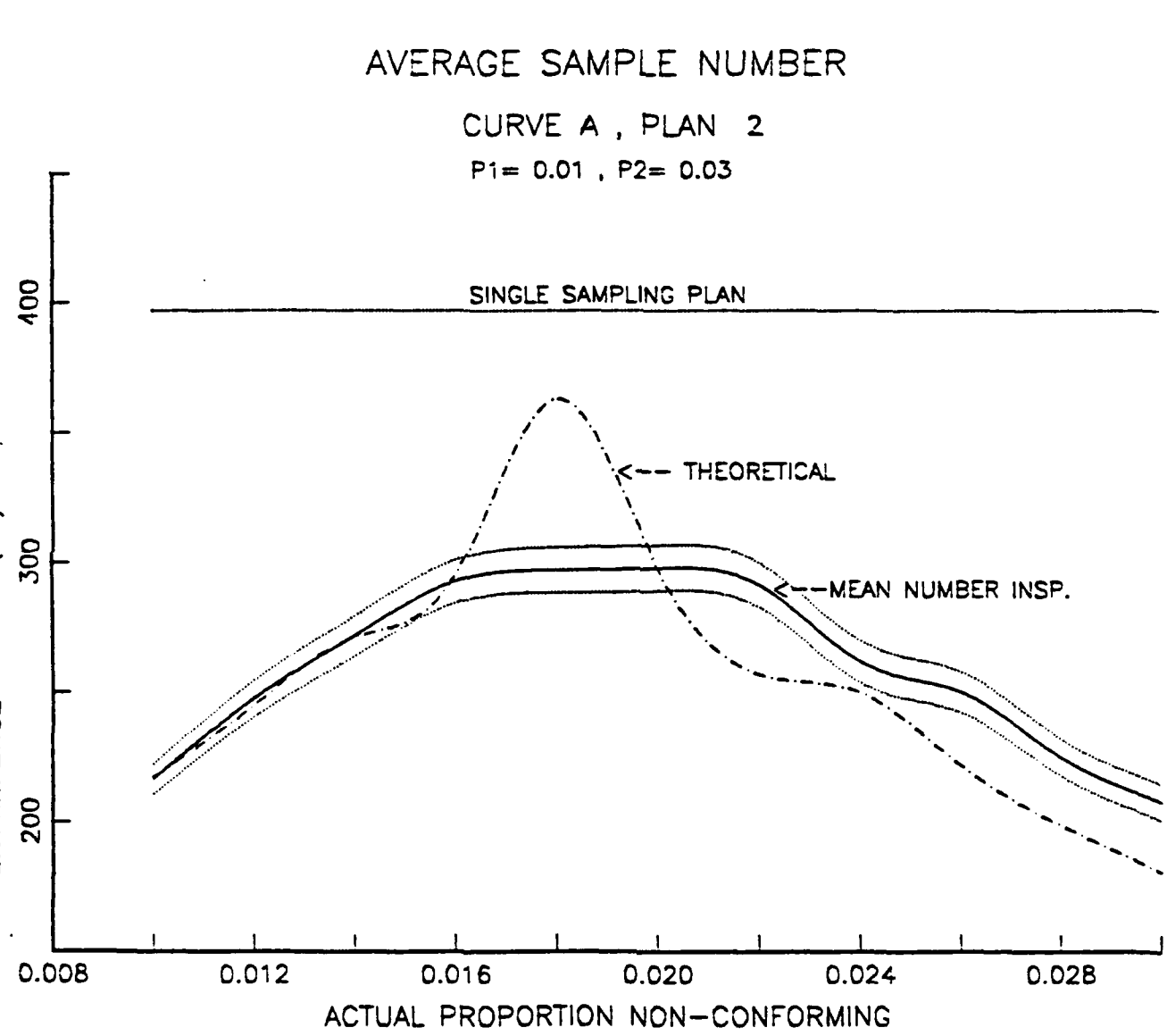


Figure 26 - ASN CURVE , PLAN SET I , CURVE G



REPRODUCED AT GOVERNMENT EXPENSE

Figure 27 - ASN CURVE , PLAN SET II , CURVE A

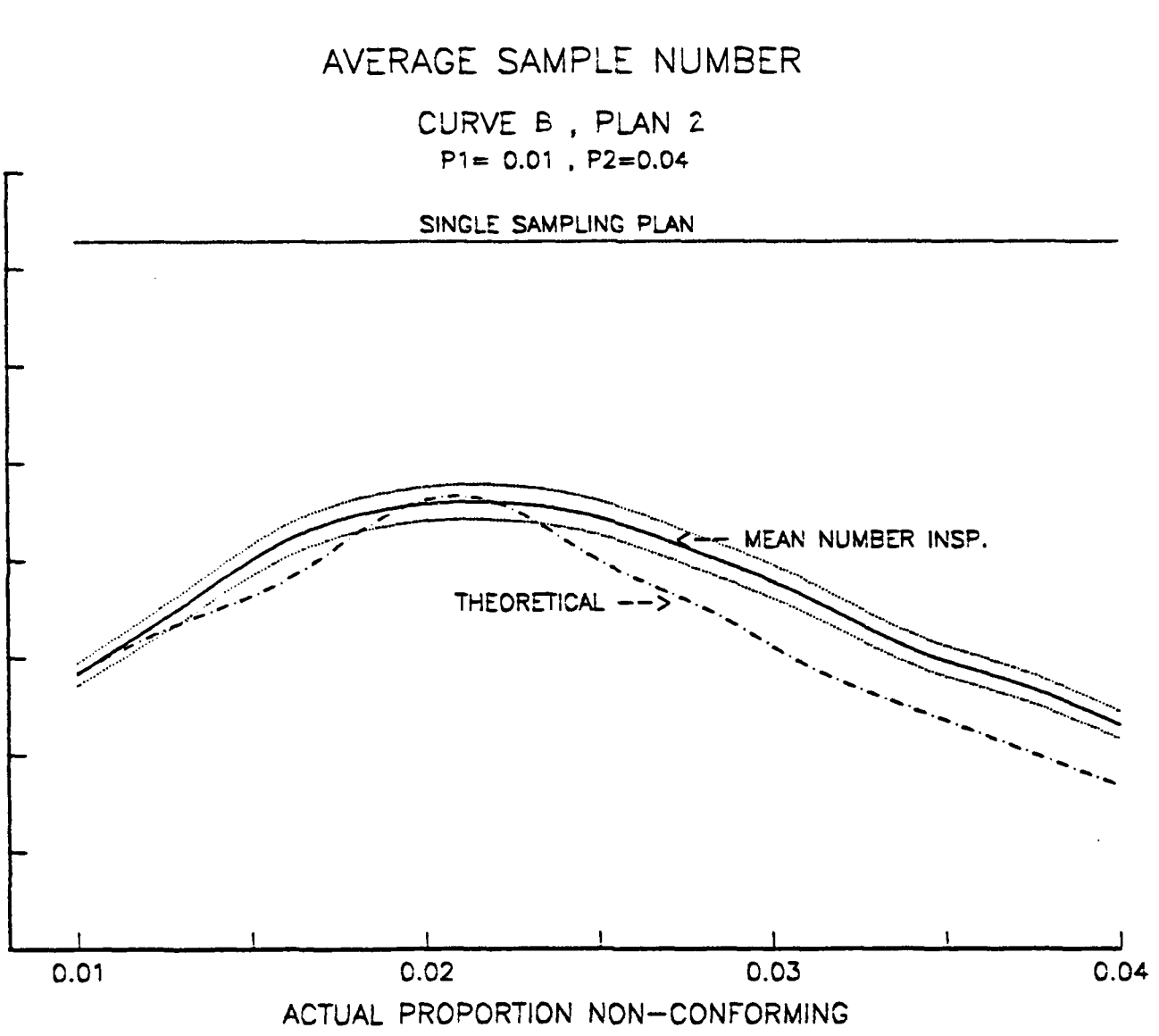


Figure 28 - ASN CURVE , PLAN SET II , CURVE B

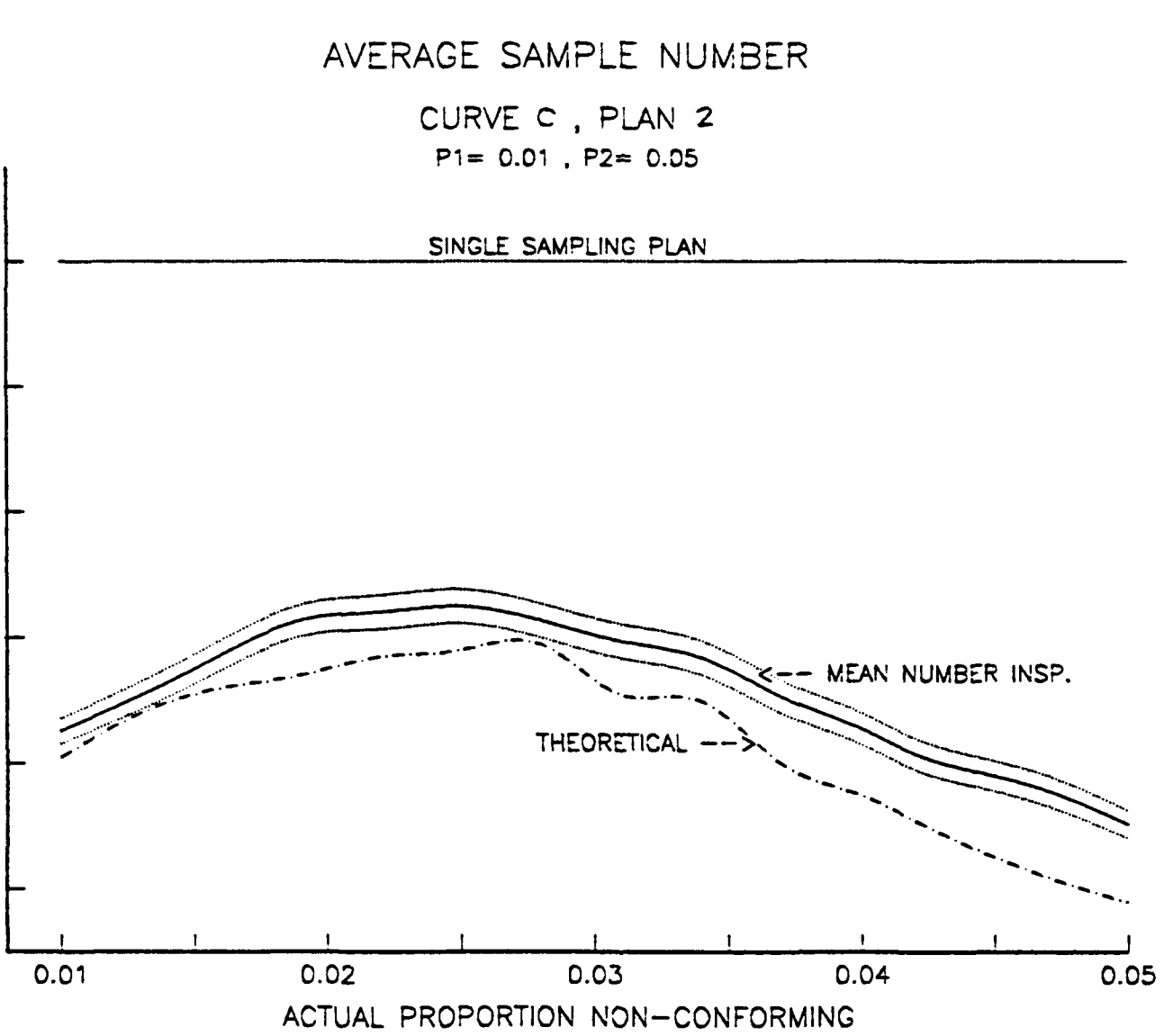


Figure 29 - ASN CURVE , PLAN SET II , CURVE C

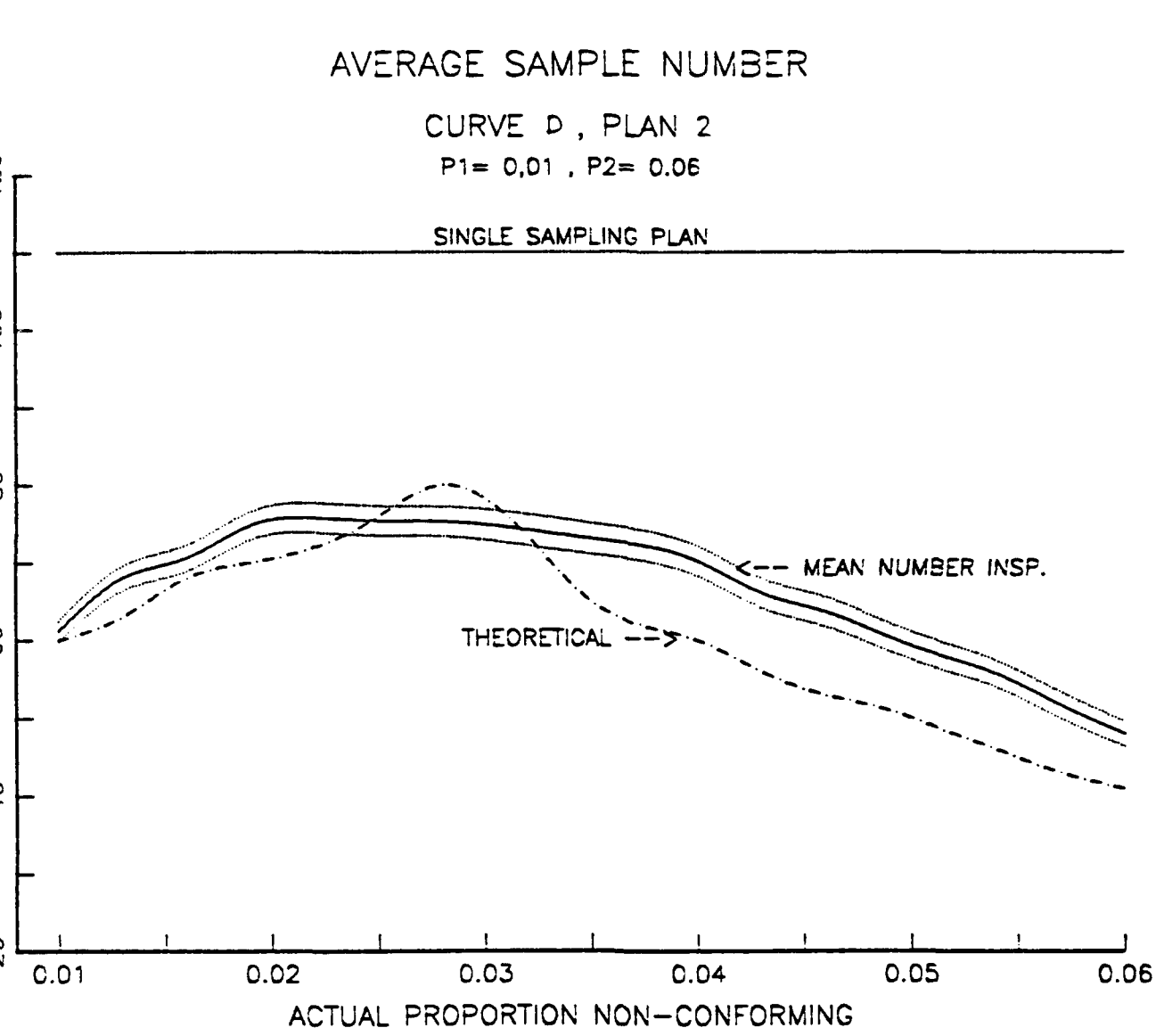
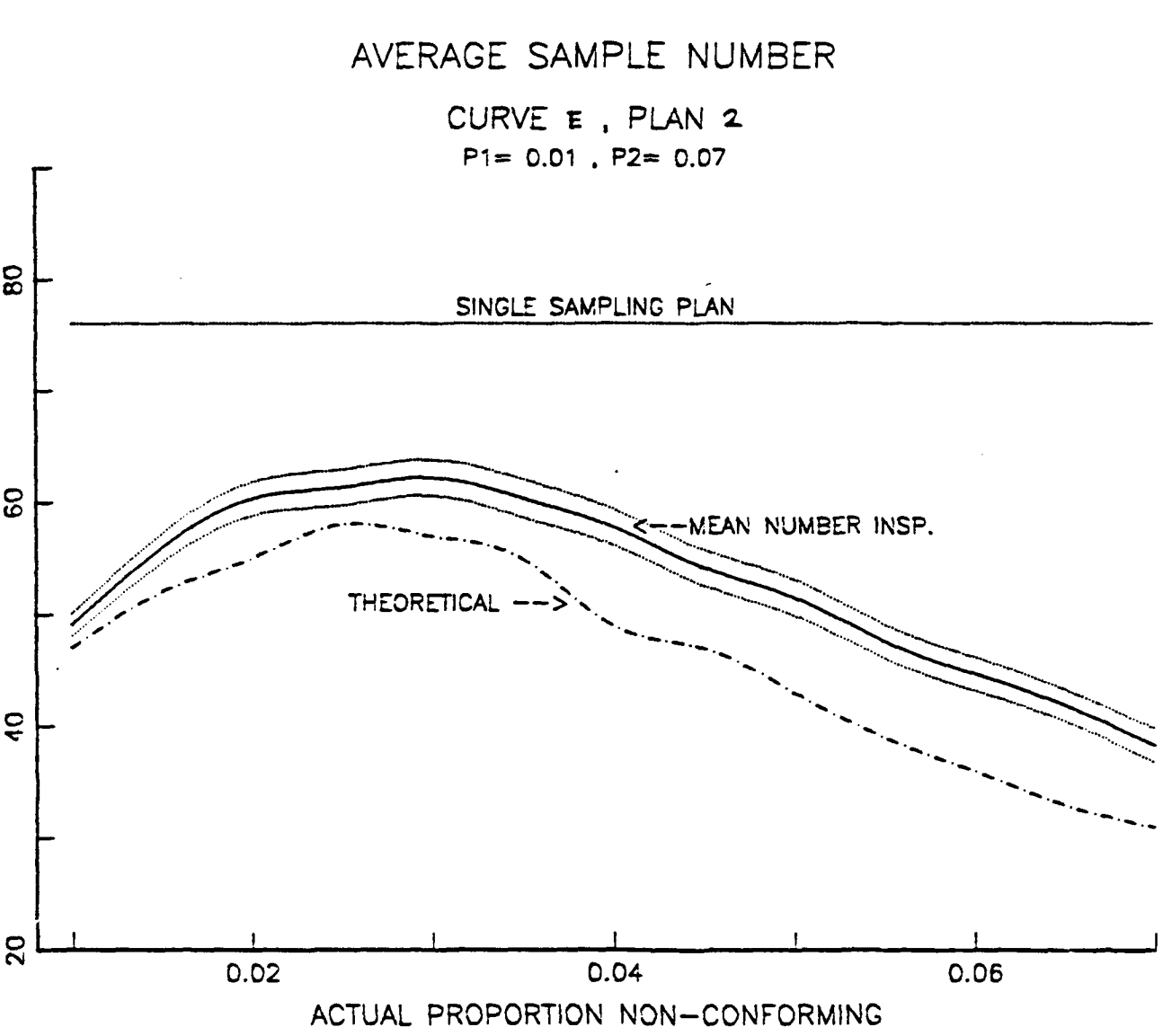


Figure 30 - ASN CURVE , PLAN SET II , CURVE D



REPRODUCED AT GOVERNMENT EXPENSE

Figure 31 - ASN CURVE , PLAN SET II , CURVE E

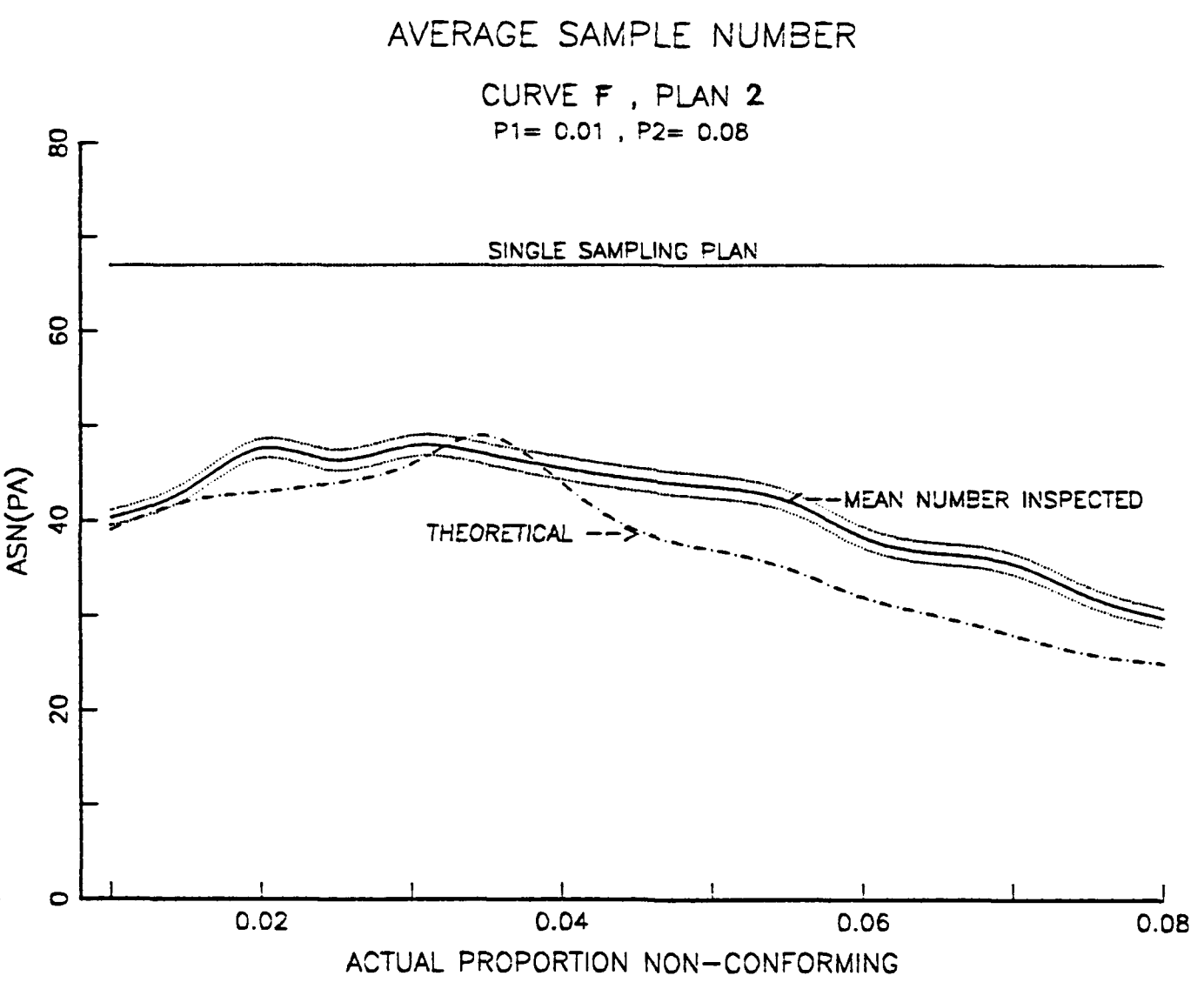


Figure 32 - ASN CURVE , PLAN SET II , CURVE F

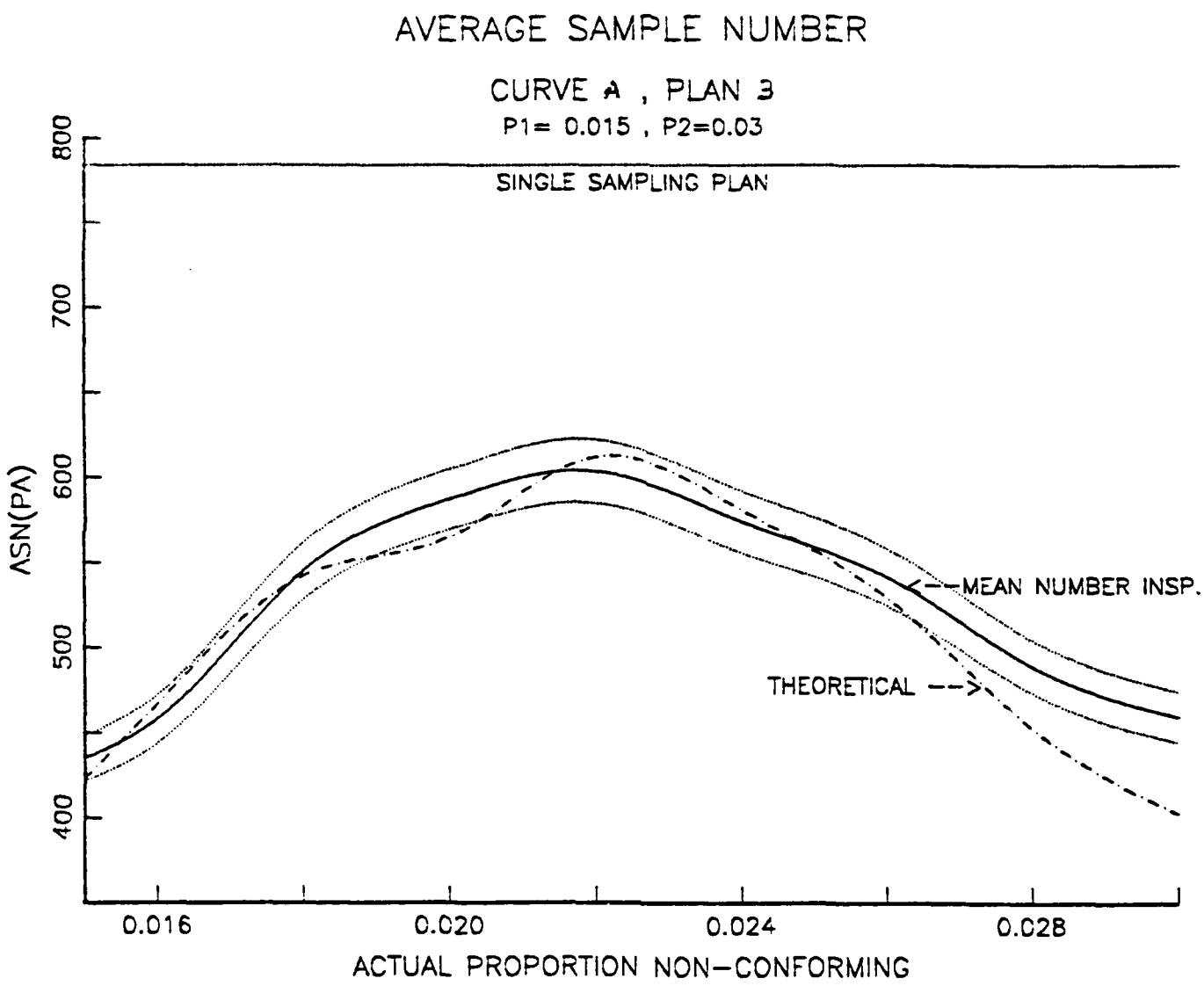


Figure 33 - ASN CURVE , PLAN SET III , CURVE A

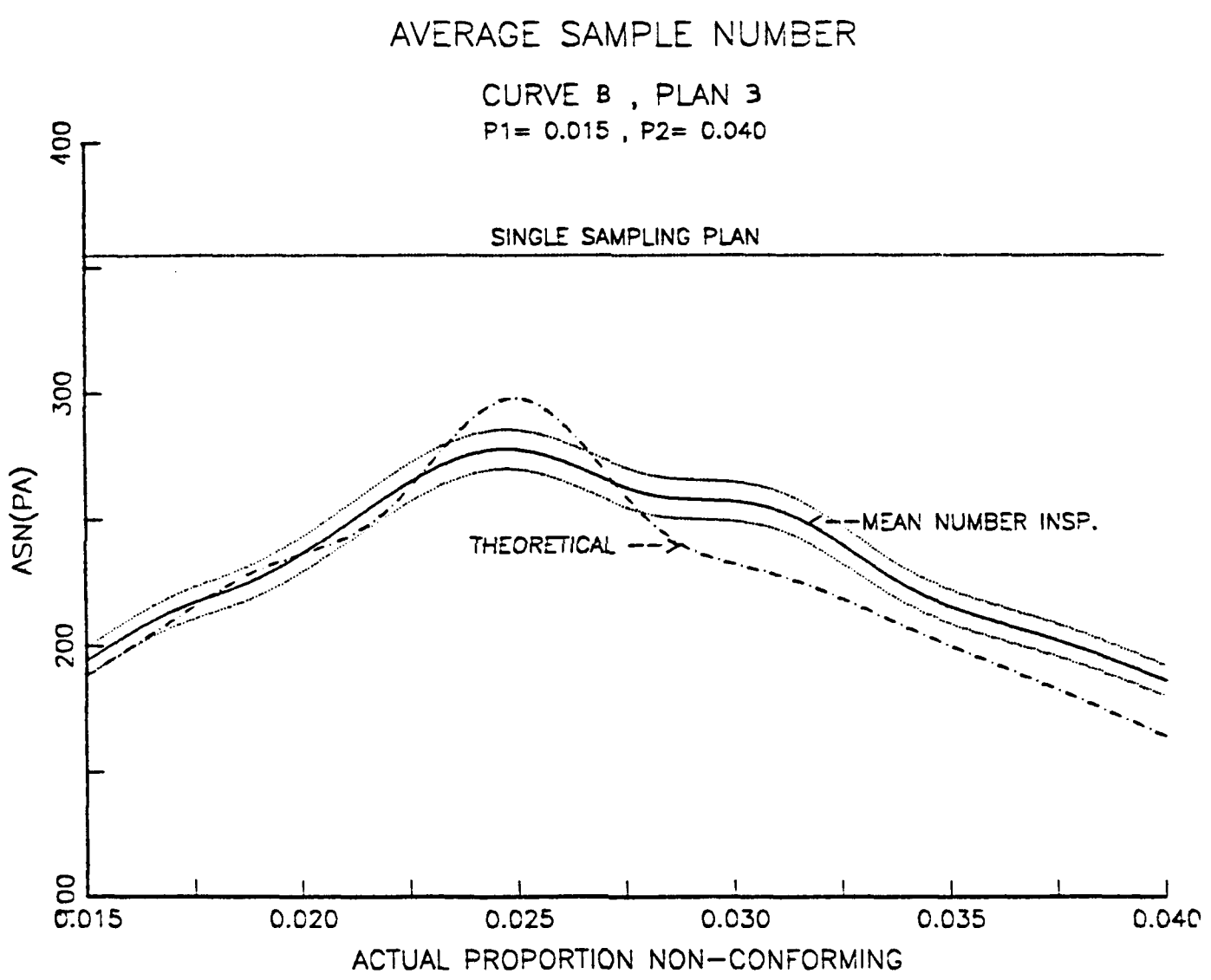


Figure 34 - ASN CURVE , PLAN SET III , CURVE B

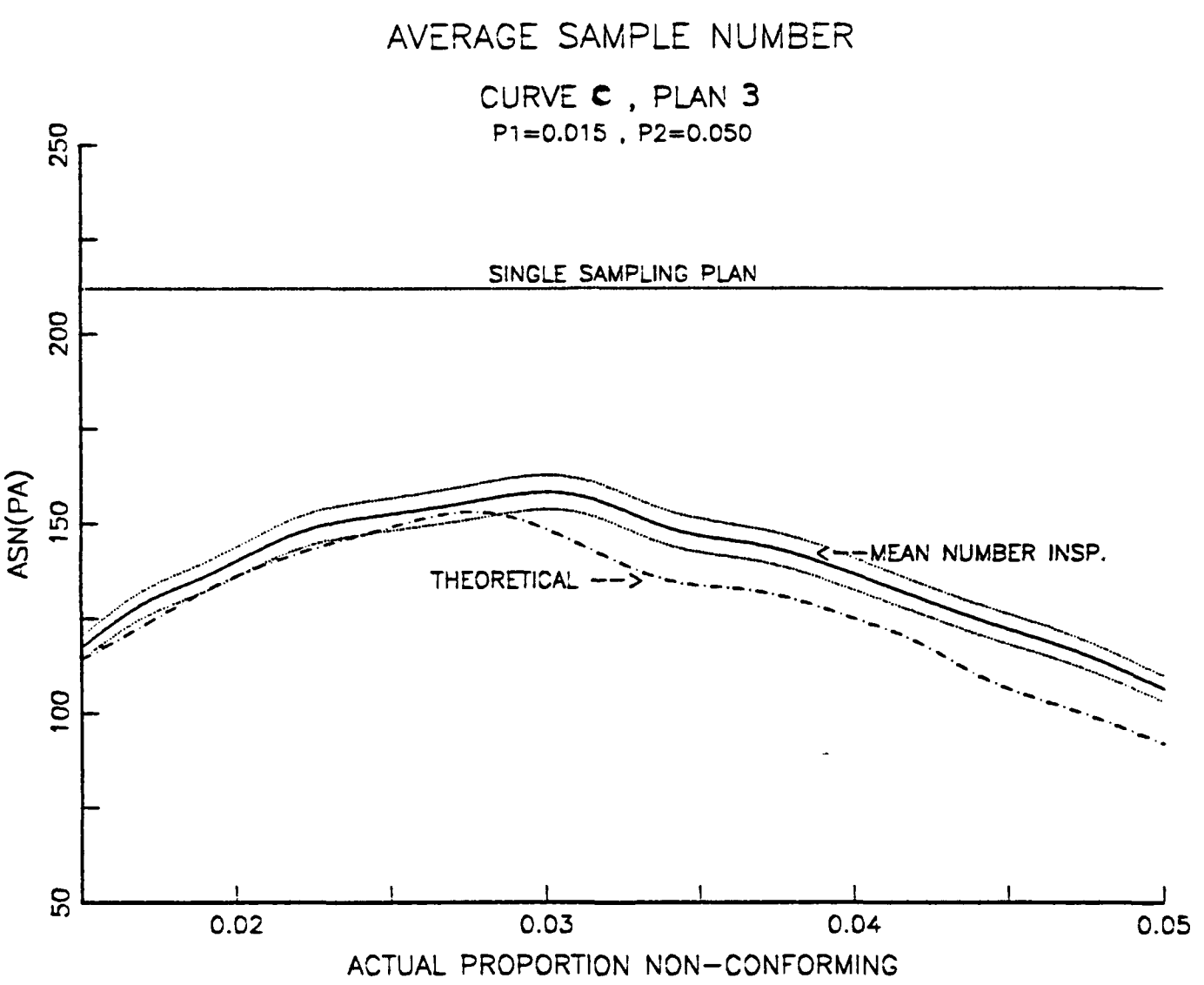


Figure 35 - ASN CURVE , PLAN SET III , CURVE C

REPRODUCED AT GOVERNMENT EXPENSE

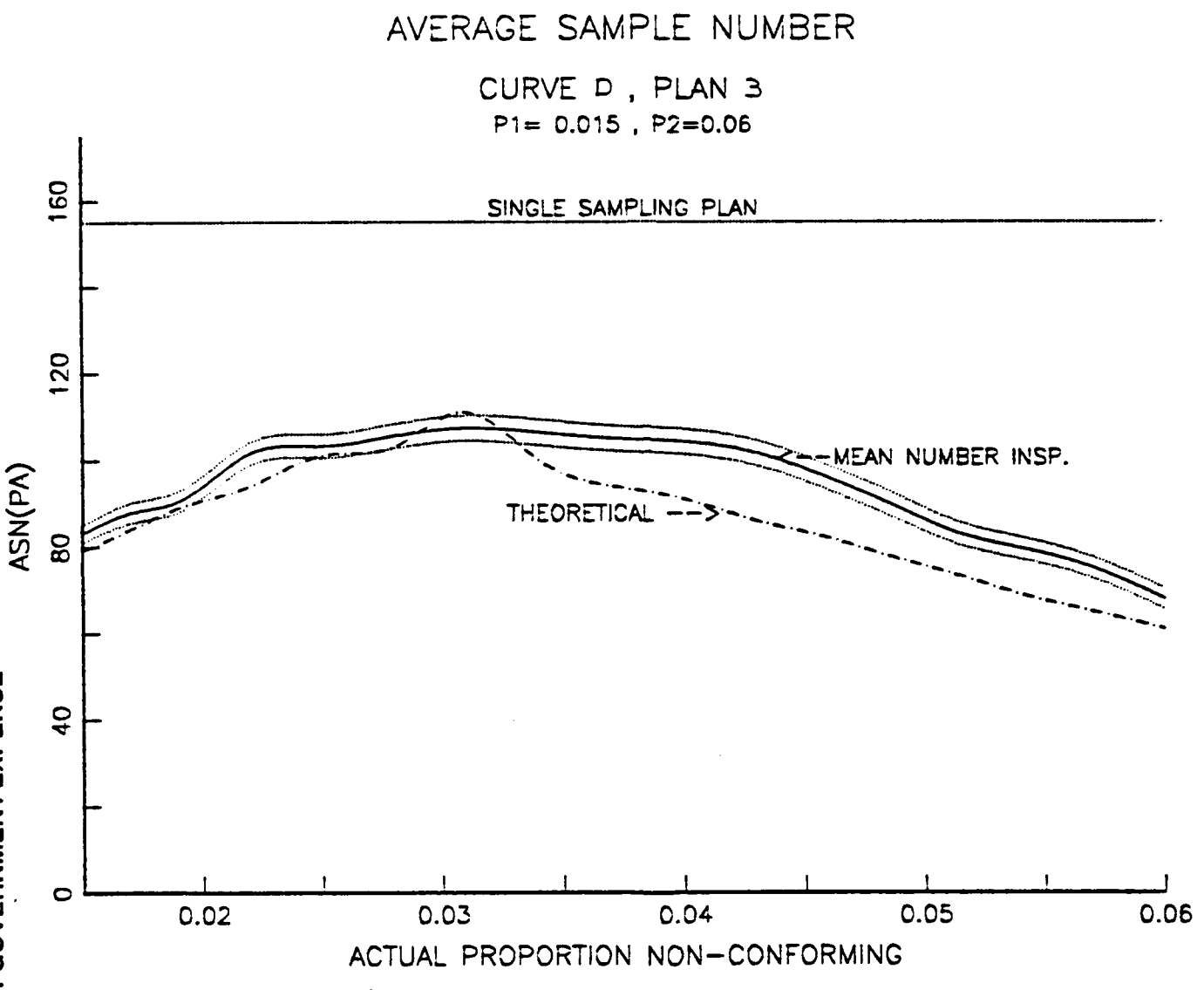
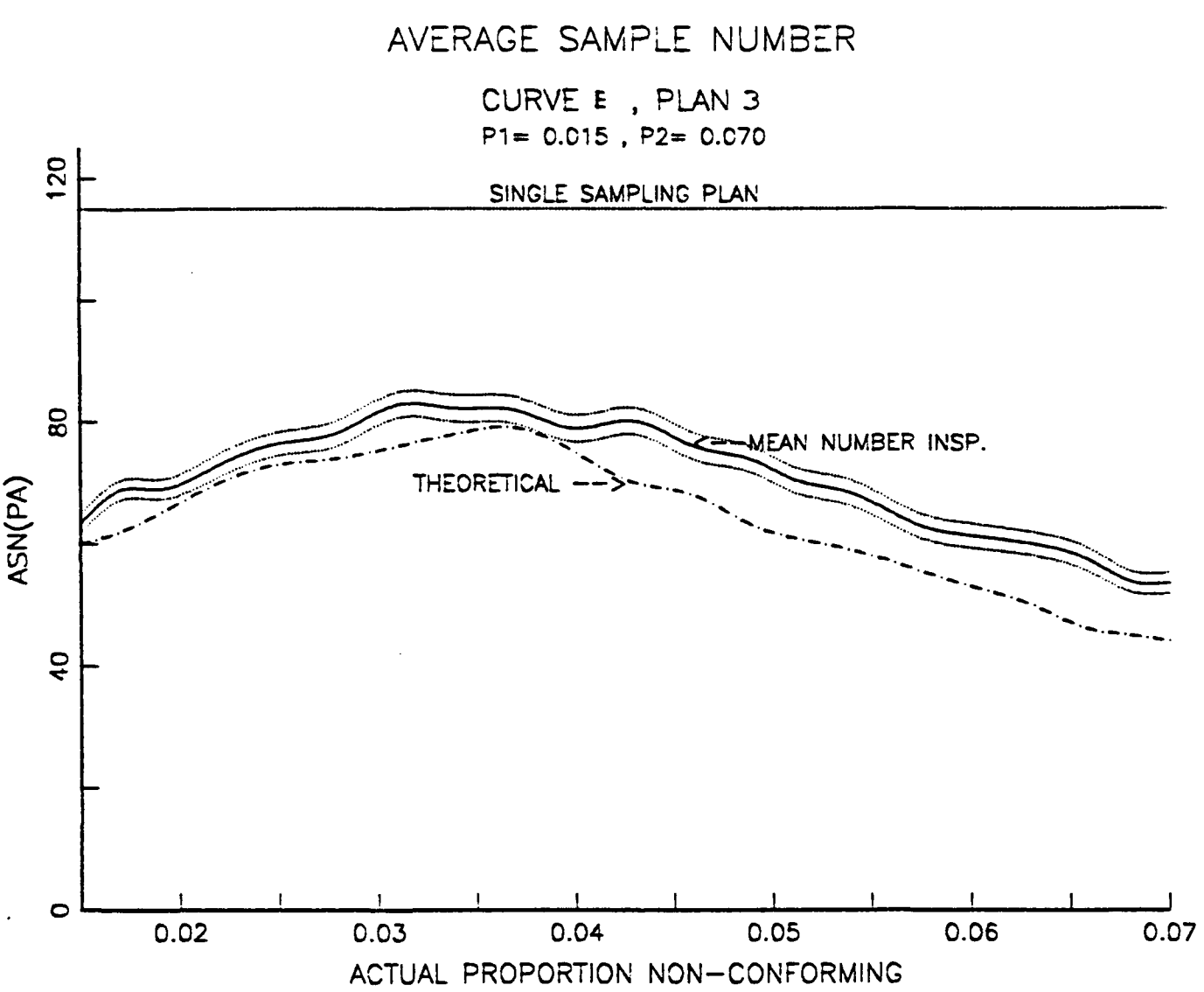


Figure 36 - ASN CURVE , PLAN SET III , CURVE D



REPRODUCED AT GOVERNMENT EXPENSE

Figure 37 - ASN CURVE , PLAN SET III , CURVE E

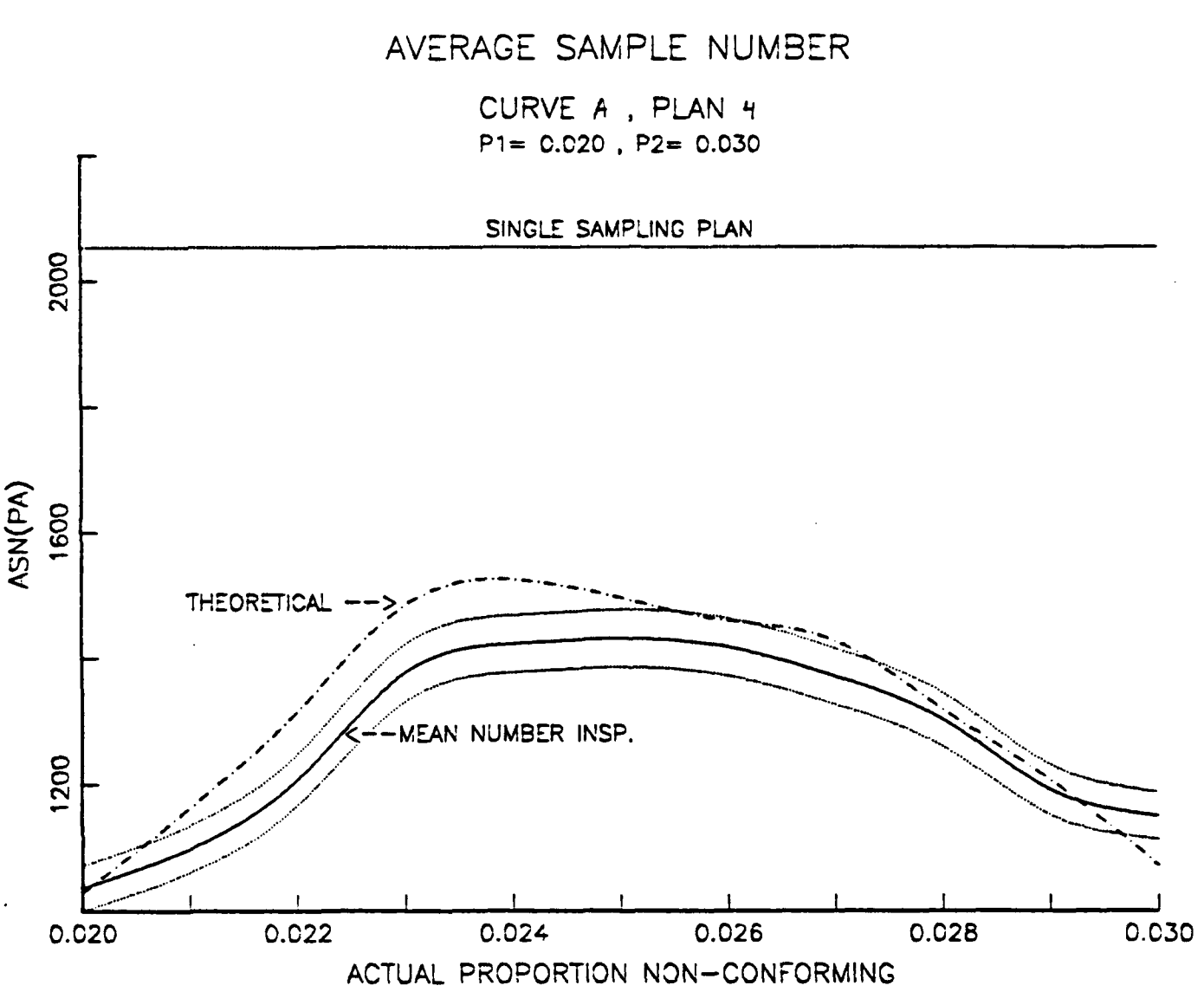


Figure 38 - ASN CURVE , PLAN SET IV , CURVE A

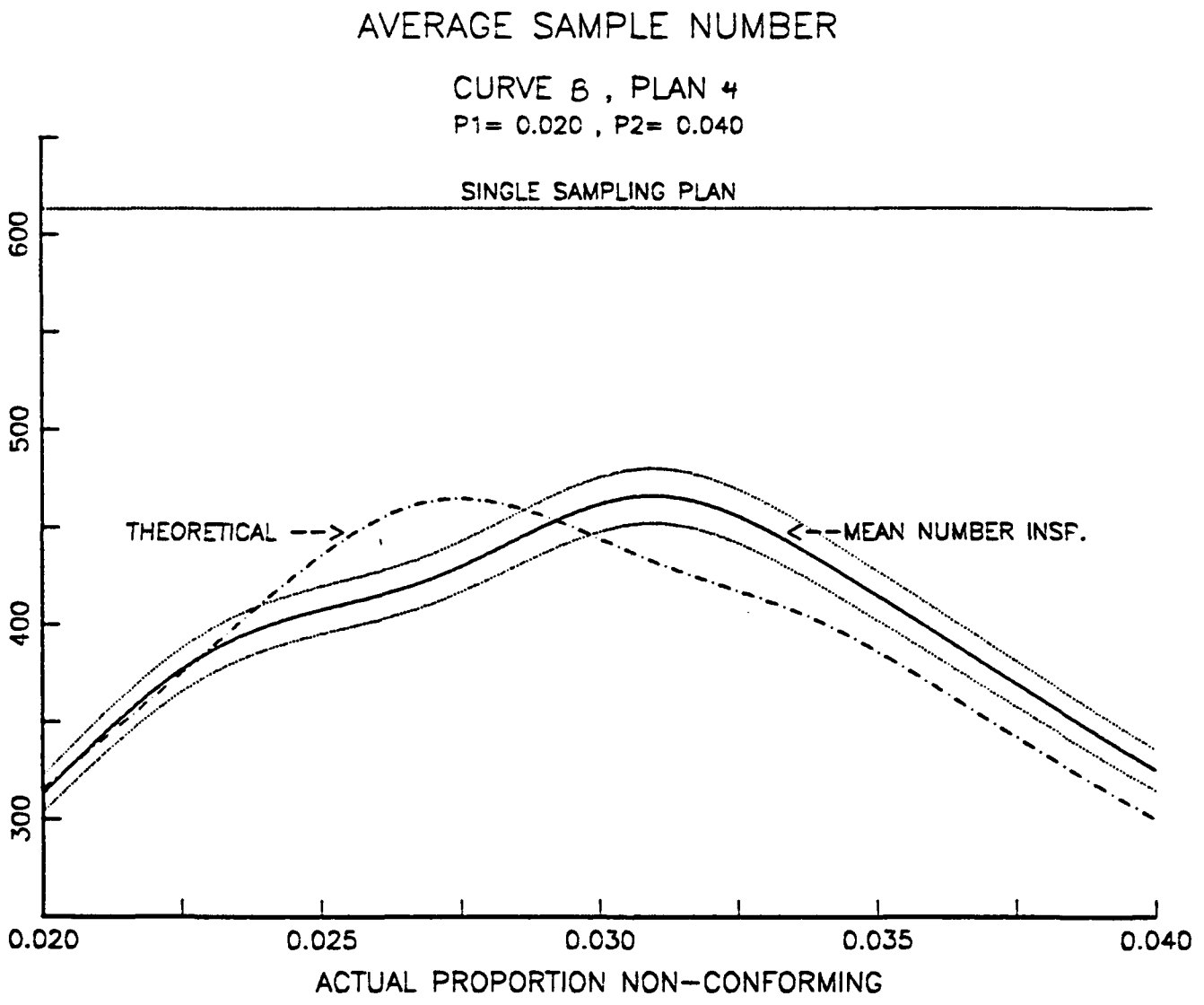


Figure 39 - ASN CURVE , PLAN SET IV , CURVE B

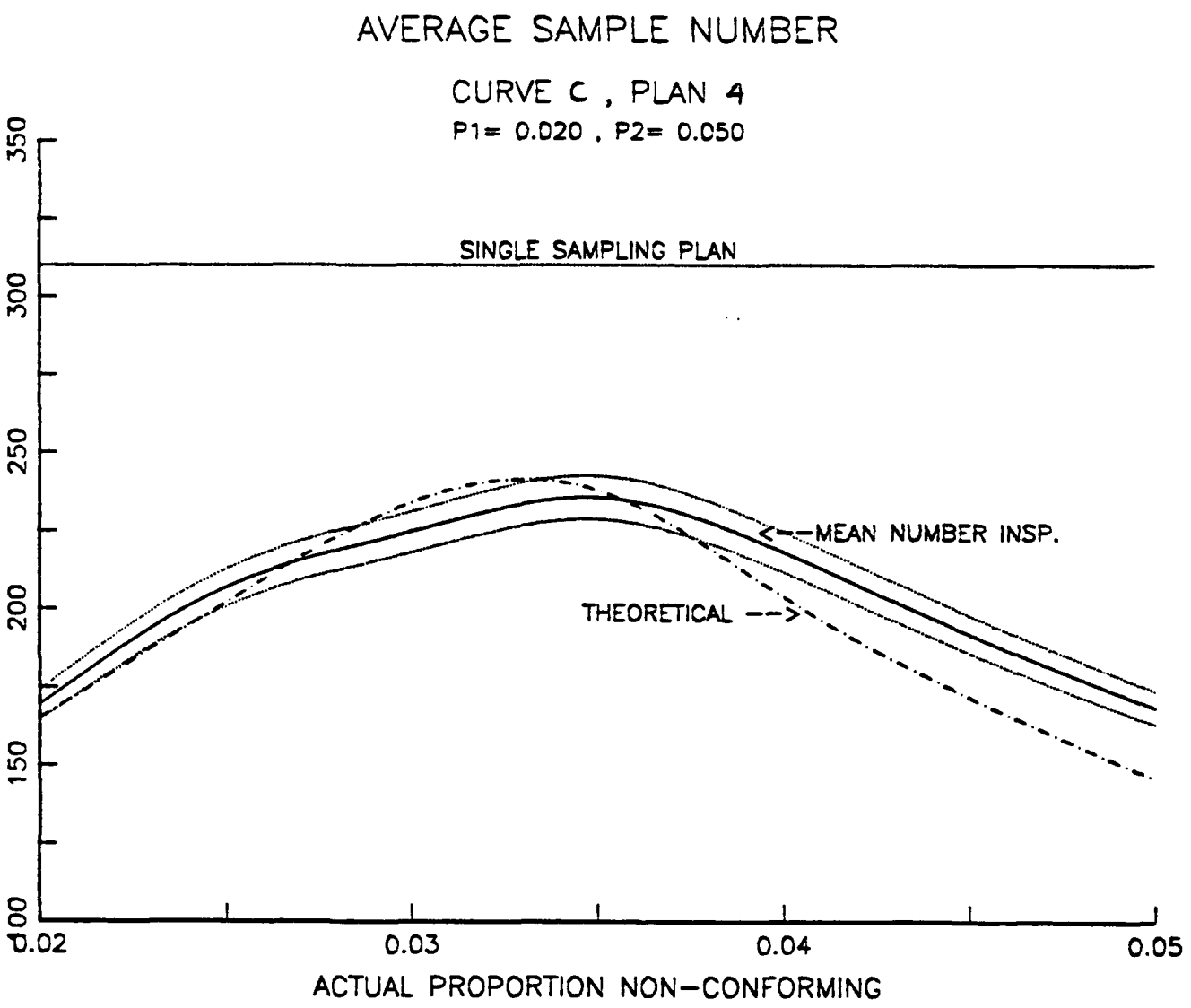


Figure 40 - ASN CURVE , PLAN SET IV , CURVE C

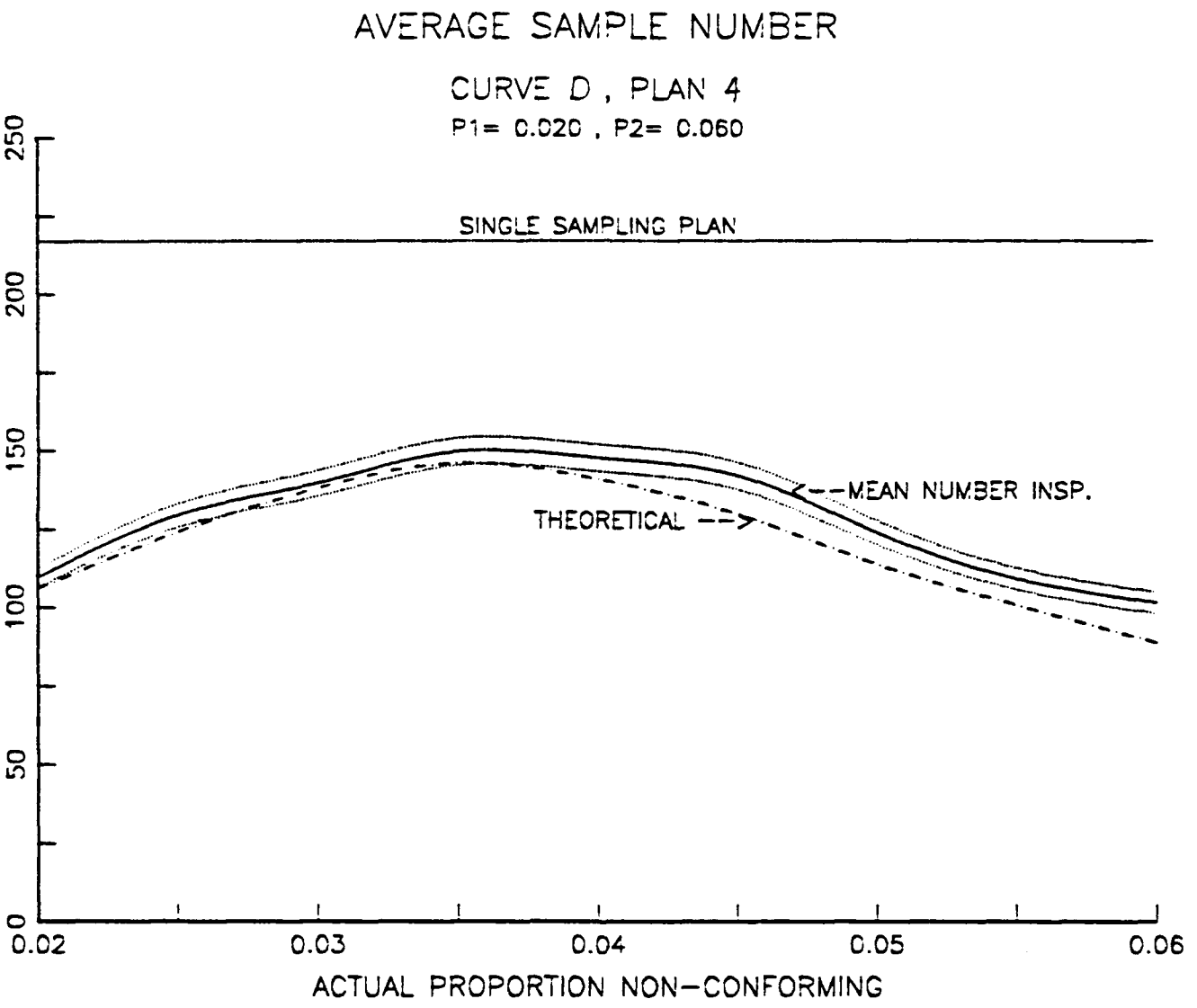


Figure 41 - ASN CURVE , PLAN SET IV , CURVE D

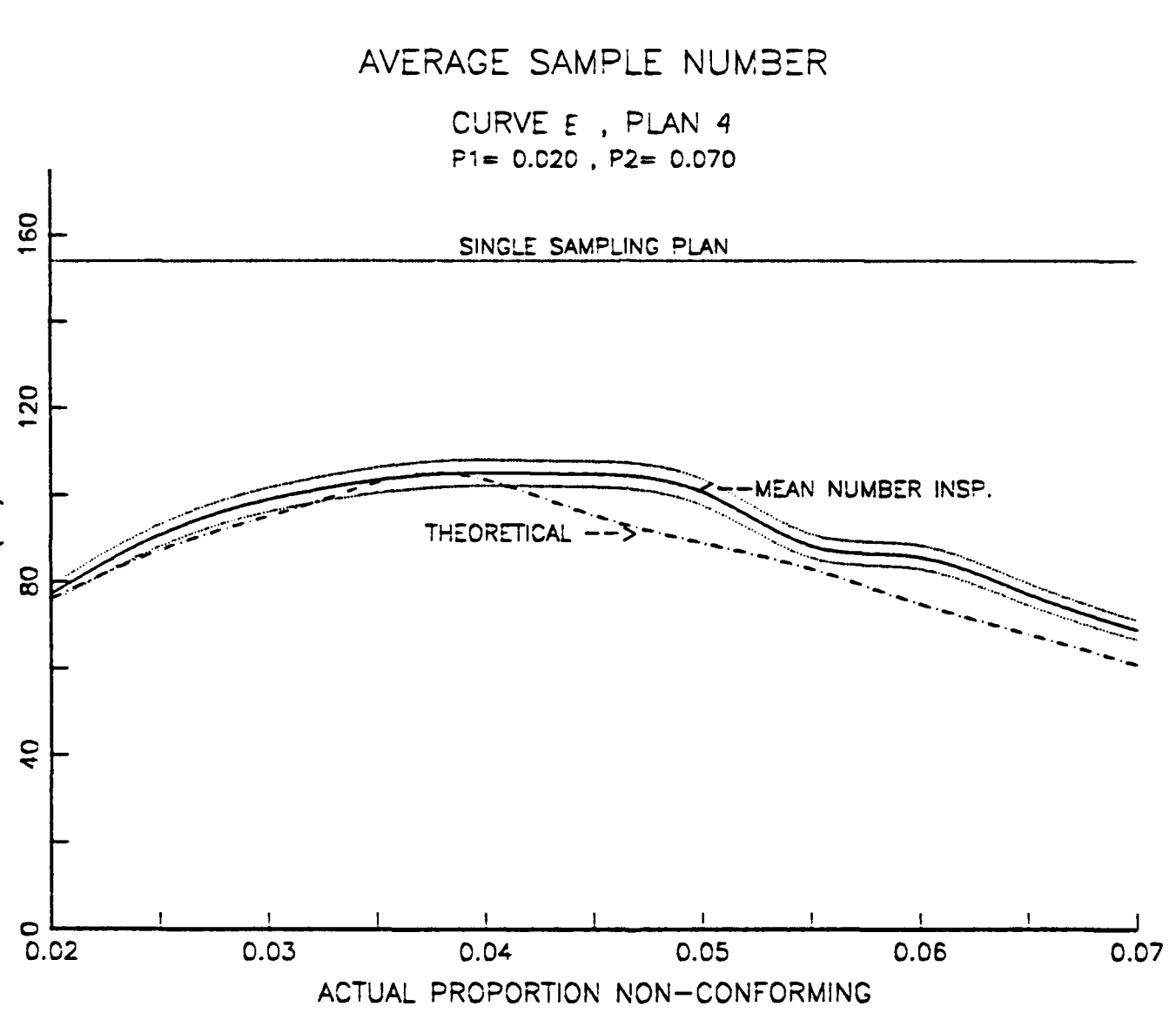


Figure 42 - ASN CURVE , PLAN SET IV , CURVE E

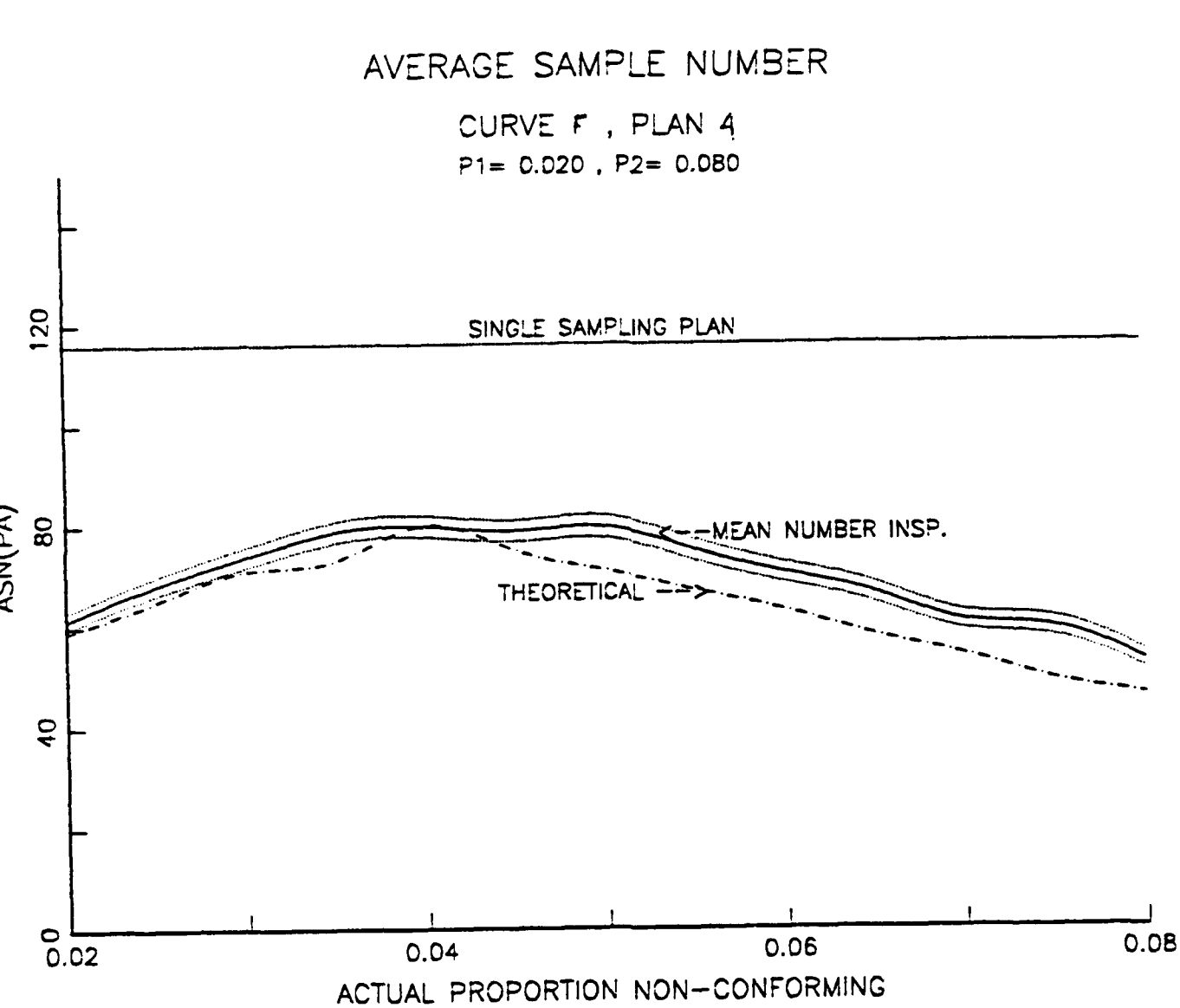


Figure 43 - ASN CURVE , PLAN SET IV , CURVE F

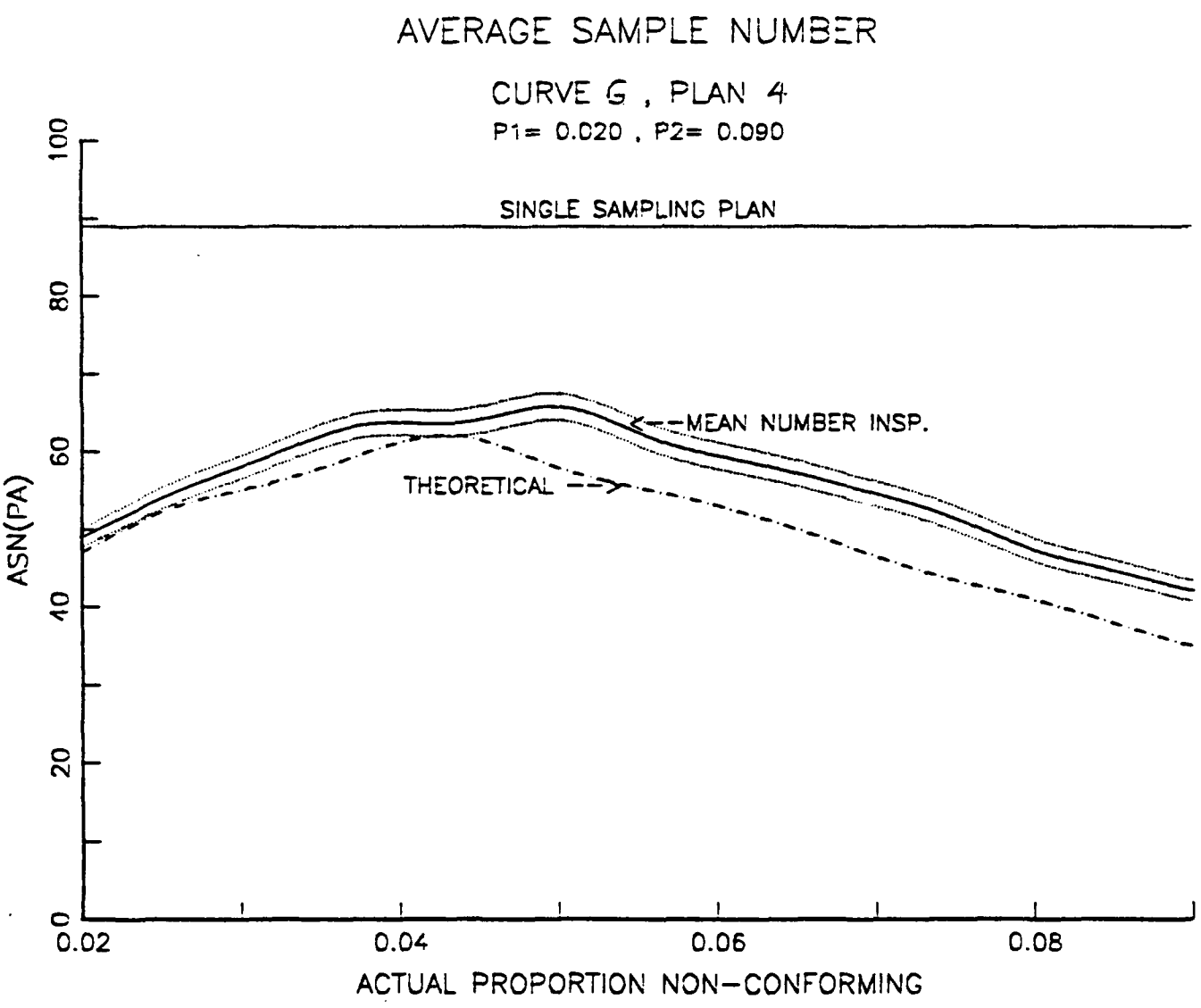


Figure 44 - ASN CURVE , PLAN SET IV , CURVE G

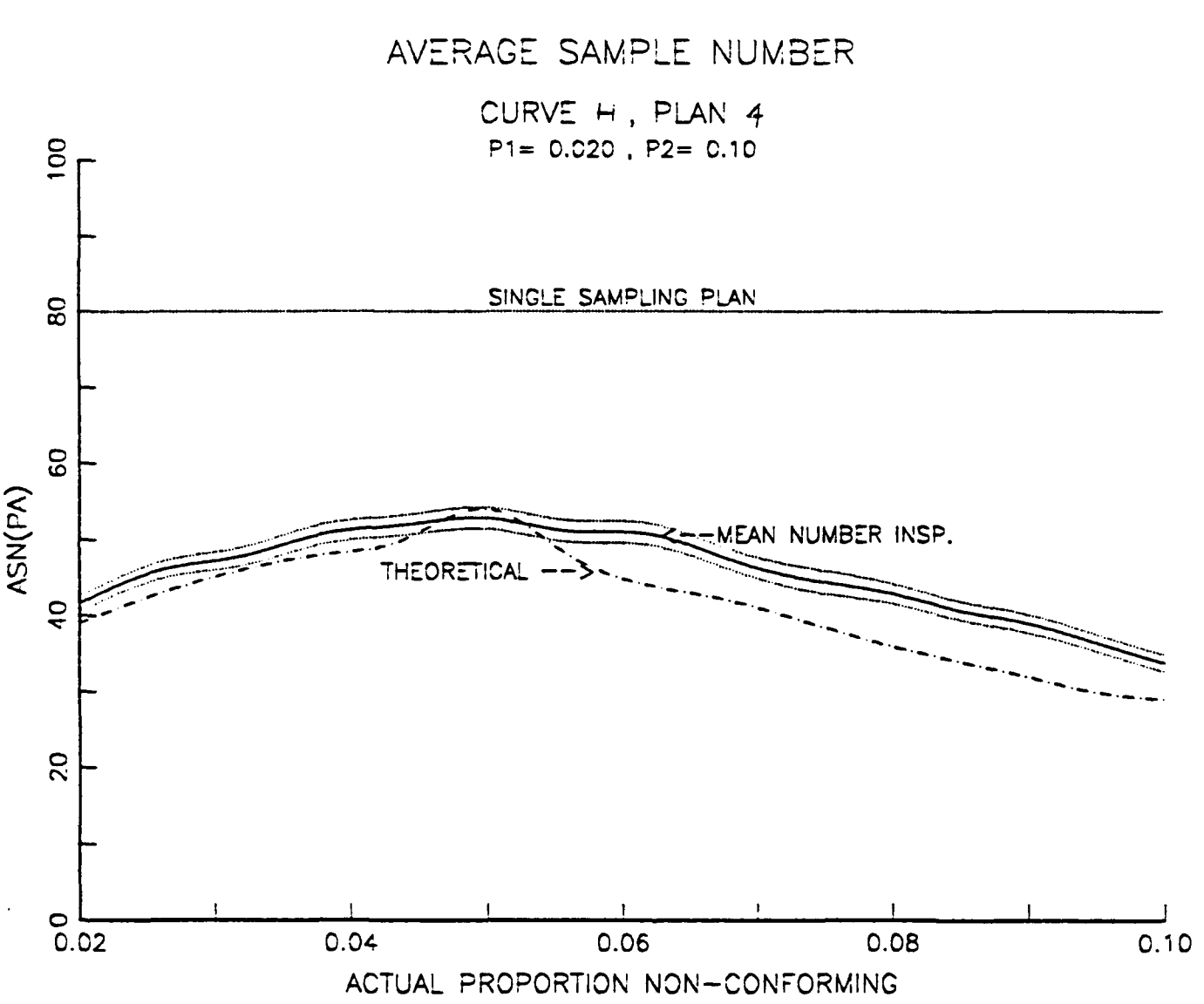


Figure 45 - ASN CURVE , PLAN SET IV , CURVE H

APPENDIX E

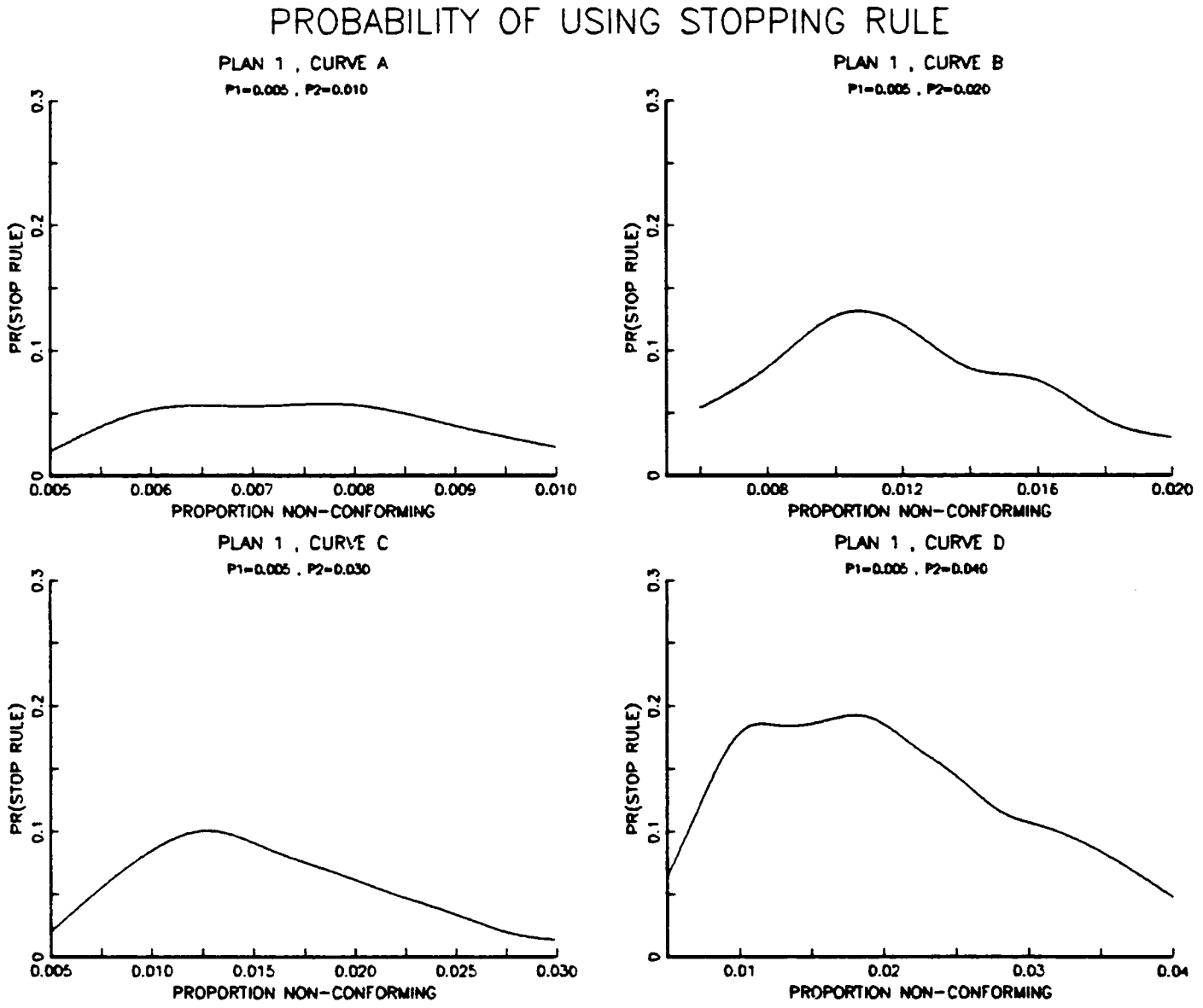


Figure 46 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN I , CURVES A THRU D.

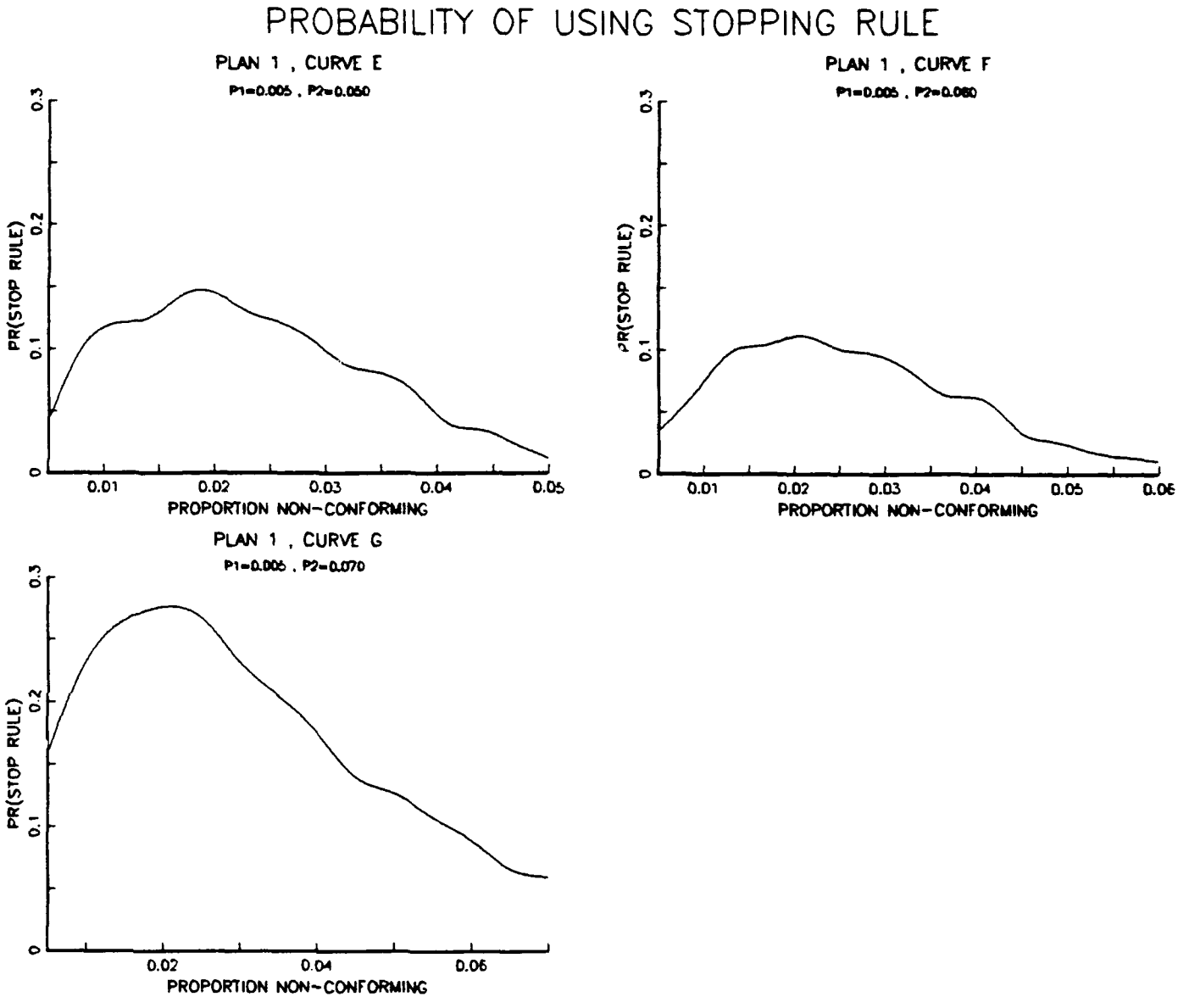


Figure 47 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN I , CURVES E THRU G.

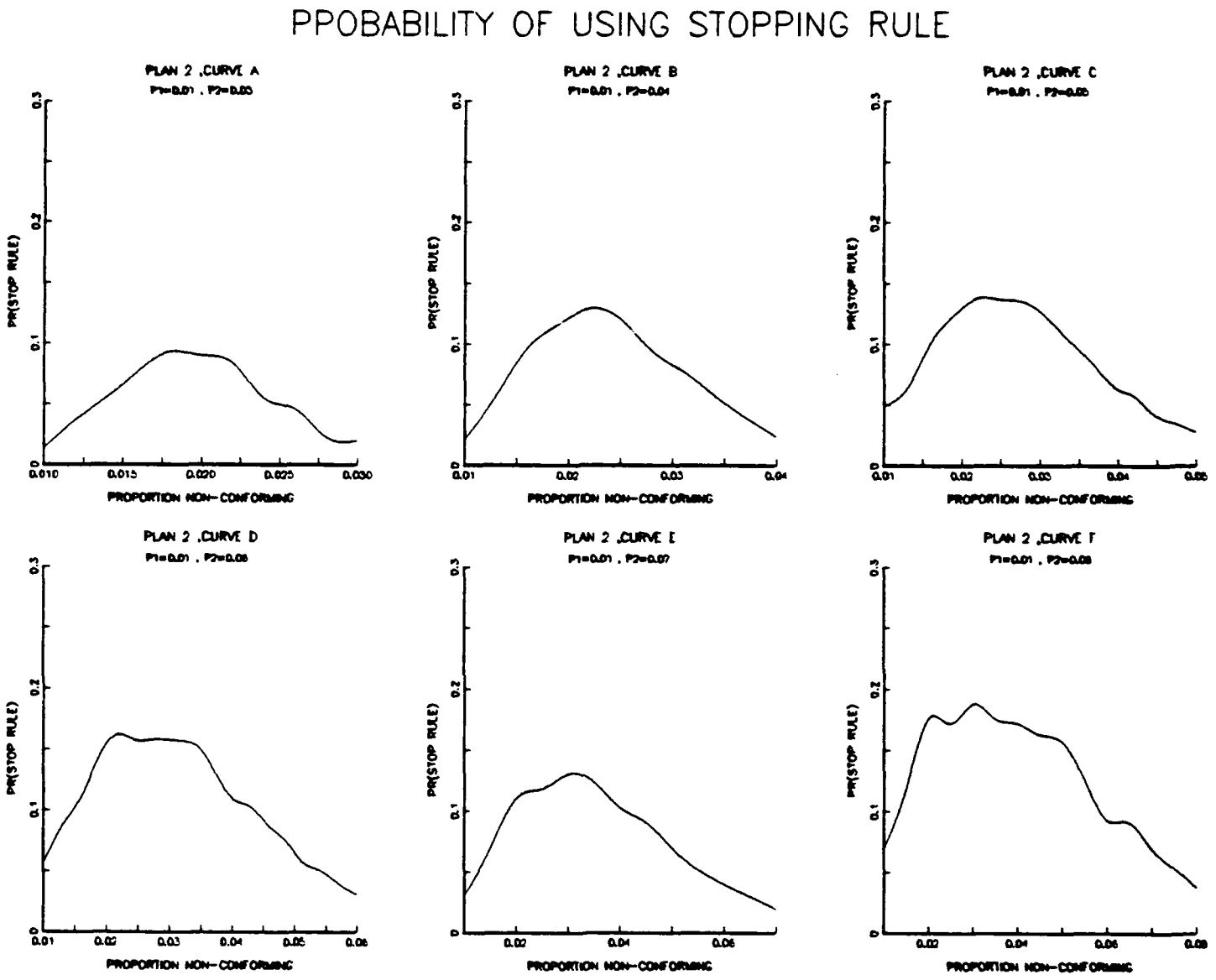


Figure 48 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN II , CURVES A THRU F.

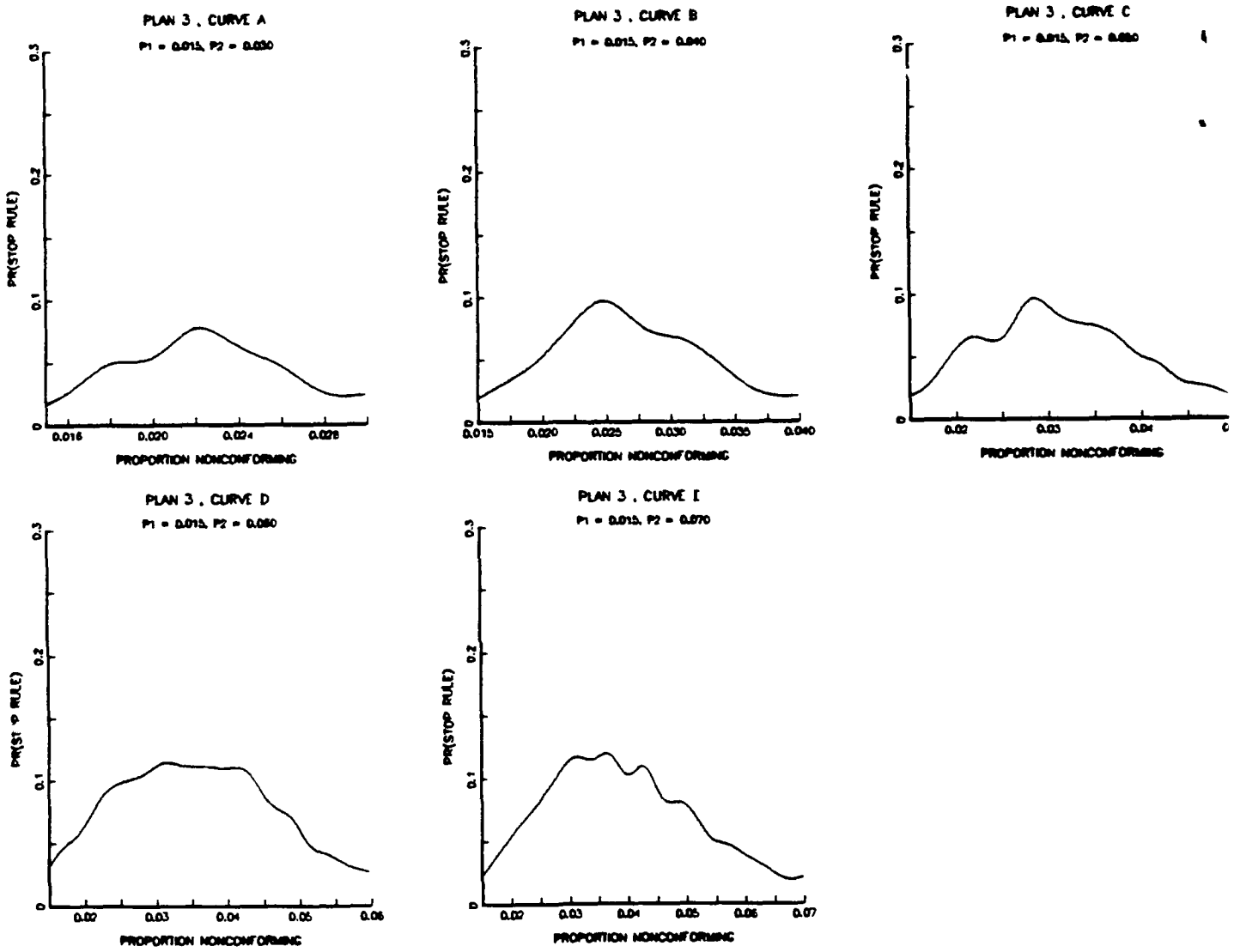


Figure 49 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN III , CURVES A THRU E.

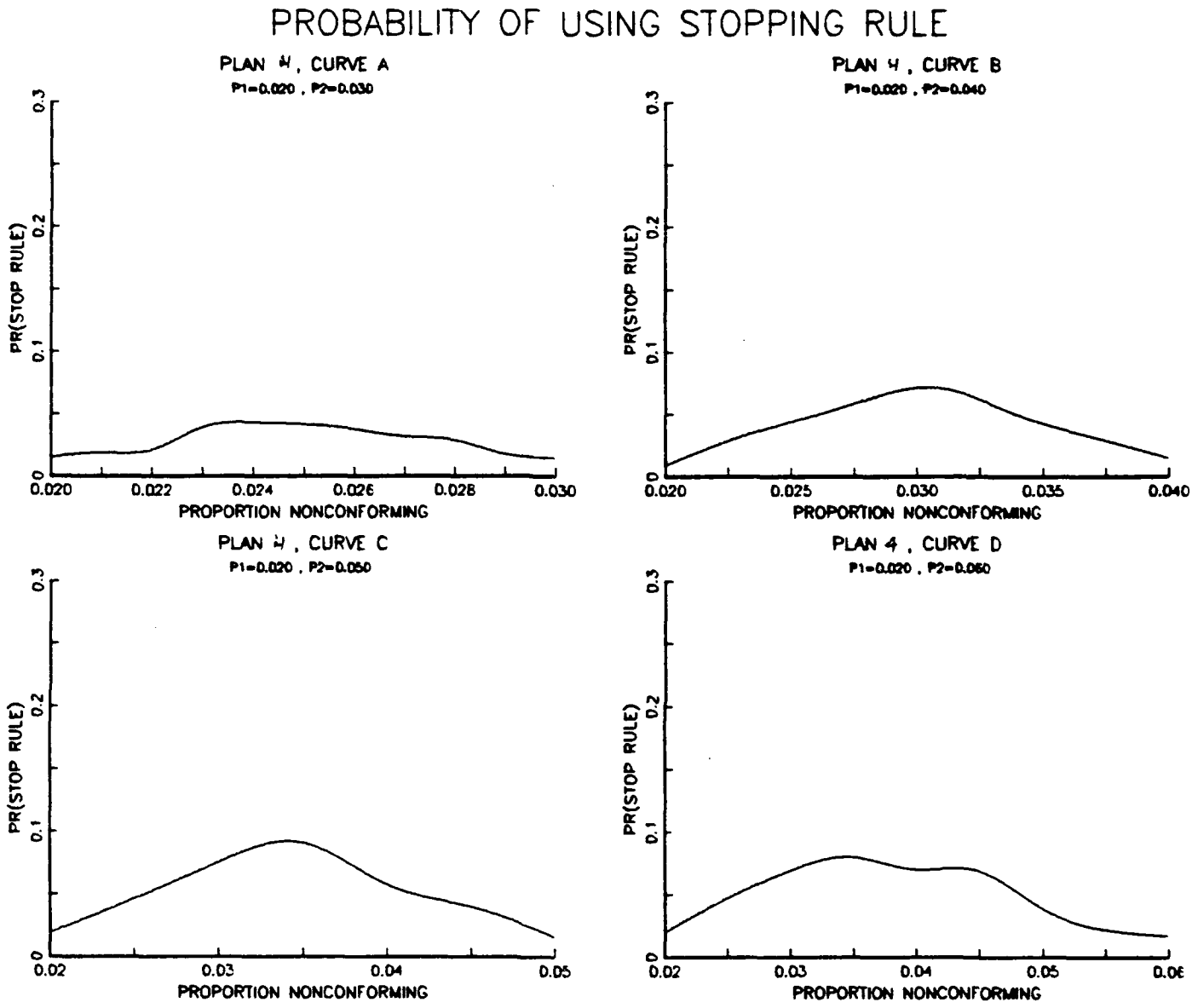


Figure 50 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN IV , CURVES A THRU D.

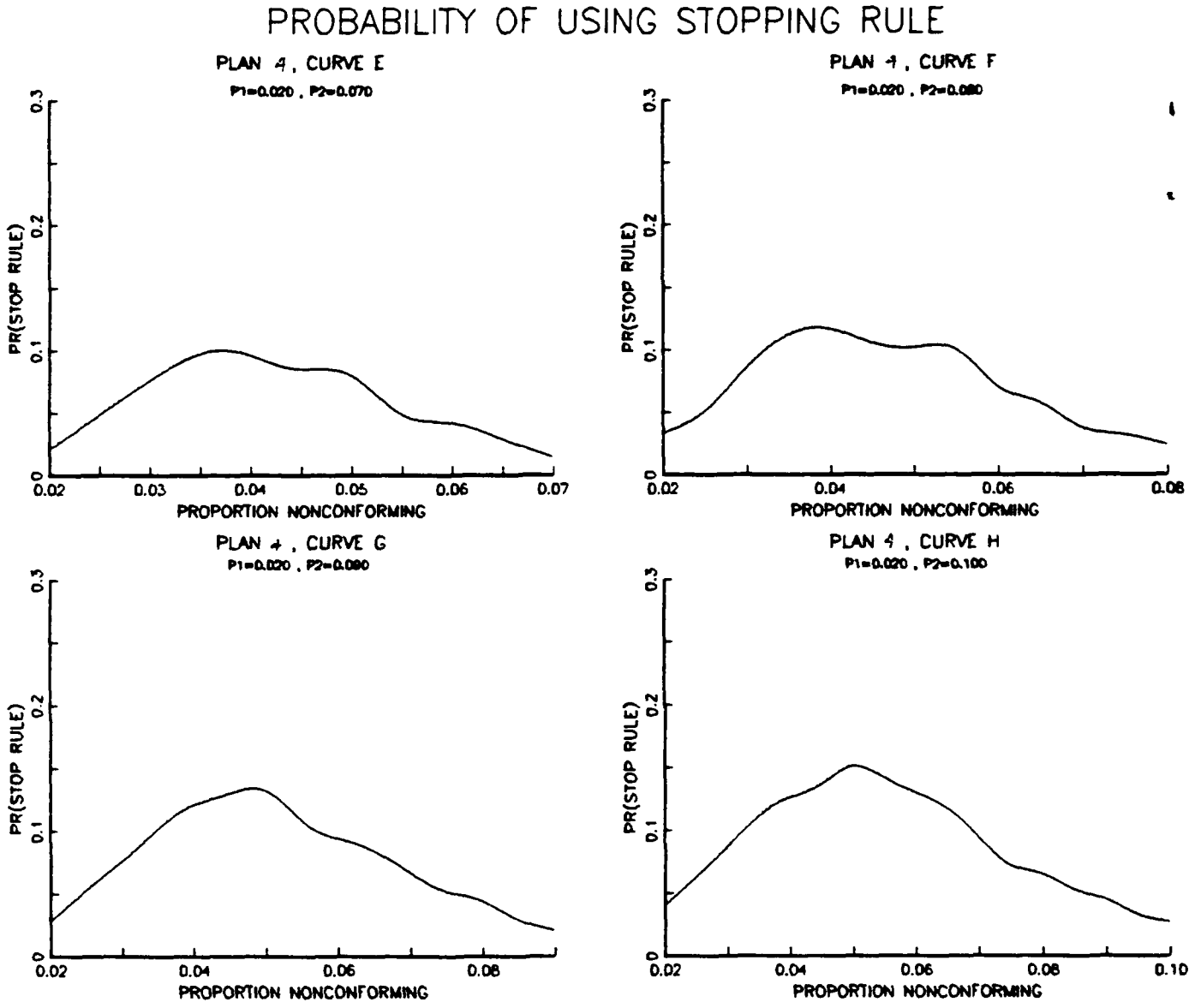


Figure 51 - PROBABILITY OF IMPLIMENTING THE TRUNCATION AND ACCEPTANCE RULE . PLAN IV , CURVES E THRU H.

Table XXI - TESTING OF REGRESSION EQUATION
FOR THE PROBABILITY OF IMPLIMENTING
(h_1-1) ACCEPTANCE RULE

P1	P2	Diff	s	Predicted Pr(NTP)	TRUE Pr(NTP)	difference
0.005	0.010	0.005	0.00722	0.088	0.057	0.03
0.005	0.020	0.015	0.01084	0.114	0.086	0.03
0.005	0.030	0.025	0.01400	0.128	0.101	0.03
0.005	0.040	0.035	0.01693	0.137	0.191	-0.05
0.005	0.050	0.045	0.01970	0.144	0.146	0.00
0.005	0.060	0.055	0.02237	0.149	0.112	0.04
0.005	0.070	0.065	0.02496	0.154	0.207	-0.05
0.010	0.030	0.020	0.01824	0.115	0.094	0.02
0.010	0.040	0.030	0.02172	0.126	0.130	0.00
0.010	0.050	0.040	0.02499	0.134	0.139	-0.01
0.010	0.060	0.050	0.02811	0.140	0.162	-0.02
0.010	0.070	0.060	0.03113	0.146	0.131	0.01
0.010	0.080	0.070	0.03406	0.150	0.189	-0.04
0.015	0.030	0.015	0.02166	0.103	0.077	0.03
0.015	0.040	0.025	0.02554	0.116	0.097	0.02
0.015	0.050	0.035	0.02917	0.126	0.095	0.03
0.015	0.060	0.045	0.03263	0.133	0.122	0.01
0.015	0.070	0.055	0.03596	0.139	0.119	0.02
0.020	0.030	0.010	0.02467	0.089	0.043	0.05
0.020	0.040	0.020	0.02889	0.107	0.071	0.04
0.020	0.050	0.030	0.03282	0.118	0.079	0.04
0.020	0.060	0.040	0.03655	0.126	0.091	0.03
0.020	0.070	0.050	0.04012	0.133	0.100	0.03
0.020	0.080	0.060	0.04359	0.138	0.177	-0.04
0.020	0.090	0.070	0.04696	0.143	0.132	0.01
0.020	0.100	0.080	0.05025	0.147	0.151	0.00

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